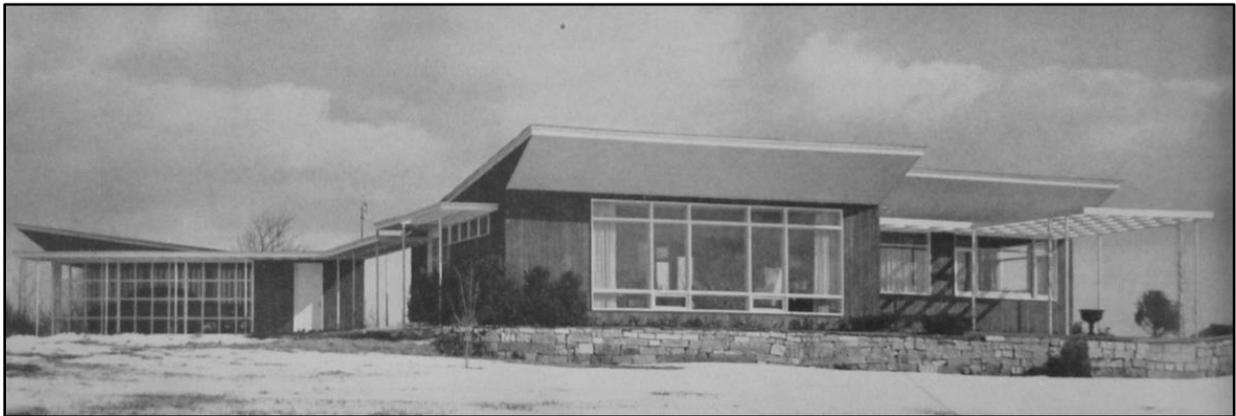


Mid-20th Century Residential Architecture in NH: 1945-1975



Prepared by Lisa Mausolf, Preservation Consultant

for the

New Hampshire Department of Transportation

2019

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Cover illustration: Warren Hallamore House “Far Horizons”, Henniker; David Campbell,
David Campbell, Architect; *New Hampshire Profiles*, March 1953

I. Introduction

Mid-20th Century Residential Architecture in New Hampshire: 1945-1975 was prepared by Lisa Mausolf, Preservation Consultant, under contract with the New Hampshire Department of Transportation. The document was prepared as mitigation for the removal of a Ranch-style dwelling (the Tufts-Hines House) at 231 Derry Road in Litchfield. It generally follows the format of *Mid-20th Century Architecture in New Hampshire: 1945-1975* which was prepared by the author in 2012 and focused on non-residential types of properties.

Mid-20th Century Residential Architecture in New Hampshire: 1945-1975 is intended to be an annotated framework that will serve as a first step to better understand the single-family housing erected in New Hampshire during this period. It provides information on single family residential development in the state from the end of World War II to 1975 in order to better inform future discussions and evaluations as buildings of the period are faced with alteration or removal. Due to project constraints, it was not possible to comprehensively cover the entire state and thus, there is an emphasis on high growth areas such as the southern tier and Seacoast as well as areas where well-known architects of the day are known to have worked. This document is intended to be a starting point for future study and discussion.



58 Exeter Street, Newmarket
Photo by author

II. Methodology

Research conducted for this document utilized a variety of resources. *New Hampshire Architect* published by the New Hampshire Chapter of the American Institute of Architects from 1949 to 1962 and its successor, *Granite State Architect* which ran from 1963 to 1972 provided perspective on professionally designed residences of the era. Both publications showcased the works of the state's architects, especially the twenty or so who were active members of the A.I.A. chapter. The New Hampshire Historical Society, New Hampshire State Library, and the New Hampshire Division of Historical Resources all have incomplete runs of the publications in their collections. All of the issues available at each of these locations were reviewed. Other helpful publications included *New Hampshire Profiles* and *Shoreliner*, published by the same company but focusing on the Seacoast Region.¹

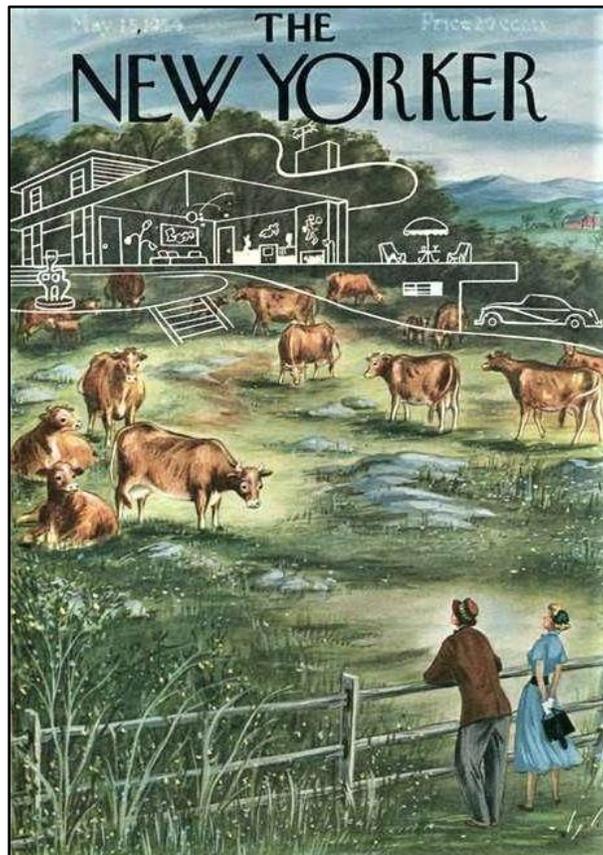
In order to ascertain the context behind the many dwellings that were not designed by professional architects it was necessary to search through other source material. Newspapers of the day offer a wealth of information on trends, builders, styles, etc. The most readily accessible for this report were newspaper articles from the *Nashua Telegraph* and *Portsmouth Herald* which are searchable and available on Newspapers.com. Previous historic resources surveys on file at the New Hampshire Division of Historical Resources (NHDHR) provided some information although it is limited. The number of properties surveyed will increase in the years to come as more resources reach the 50-year cut off and may need to be considered for eligibility for listing in the National Register of Historic Places. Windshield surveys throughout the state provided examples of various building styles/forms that could then be further investigated through assessors' records, deeds, directories, etc. Due in part to project constraints, the examples presented are skewed toward the southern tier and seacoast regions of New Hampshire although this is not entirely inappropriate as these are the regions that experienced the most development during the period. Yet it must be acknowledged that there are many parts of the state which deserve greater attention in the future.

This report also presents some information on the Mid-Century residential designs of several noted residential architects working in New Hampshire during this period - Ted and Peg Hunter of Hanover, David Campbell of Hopkinton, and Royal Barry Wills of Boston. An appendix provides brief summaries of the work of these and other architects working in the state during the period and the homes they designed. In the case of the three firms cited above, there are detailed lists of New Hampshire commissions compiled from various sources. The works of the Hunters are well documented in various publications and NCModernist.org. Extensive information on the career of David Campbell is found in archives at the Smithsonian Institution, including a catalog of his works assembled by his widow, Flora, after his death. New Hampshire designs by Royal Barry Wills Associates can now be more readily studied thanks to a multi-year archiving project of firm records by Historic New England. For many of the other architects who worked in the state, residential work comprised a small fraction of their output. The Appendix includes limited entries for these individuals.

¹ The Portsmouth Athenaeum has recently acquired the photograph collection of Douglas J. Armsden (1918-2009) who photographed many of the buildings of the period that appeared in the two magazines. At this writing, the collection had not yet been catalogued. Historic New England also has approximately 400 Armsden negatives.

State officials across the country have begun to address postwar residential resources and there are a number of good examples of contexts available from other states. These include BOLA Architecture + Planning, *Mid-Century King County* [Washington]: *A Context Statement on Post-War Residential Development* (2017) and *Post World War II Residential Architecture in Maine: A Guide for Surveyors* (2009). On the national scene, several publications have been produced that are useful in evaluating resources from the period. David L. Ames was the primary author for two of these - "Interpreting Post-World War II Suburban Landscapes as Historic Resources" and *National Register Bulletin: Historic Residential Suburbs: Guidelines for Evaluation and Documentation in the National Register of Historic Places*. Washington, DC: National Park Service, 2002.

Various individuals provided leads, information and assistance to the project. Roy Banwell, an architect who worked with Ted and Peg Hunter shared his knowledge of their works in the Hanover area. Devin Colman of the Vermont Division for Historic Preservation offered images of residential work by Robert Huit Hunter and David Fried. Frank "Jay" Barrett Jr. provided photos of his father's residential work, which is now in the archives at Historic New England. Many thanks to Peter Michaud who was a ready source of information for all things Mid Century Modern in the Seacoast area. He also generously shared his research on Portsmouth architect Lucien Geoffrion and Eric Huddleston as well as the results of his David Campbell research as did Richard Candee.



Cover, *The New Yorker*, May 15, 1954
Constantin Alajalov, illustrator

III. Historic Context, Residential Architecture in New Hampshire, 1945-1975



The American Dream of Home Ownership. Photo by Camerique Archive/Archive Photos/Getty Images

Like much of the country, New Hampshire witnessed a period of explosive growth in the post- World War II period, fueled by pent up demand for housing created by a scarcity of building materials during the four-year war (which had been preceded by twelve years of nationwide economic hardship), the discharge of American service men and women and the postwar baby boom. The American dream of home ownership was realized in a variety of forms. The priority immediately after the war was the rapid construction of modest housing that could be standardized. By the 1950s the housing shortage had begun to lift and there was more differentiation and experimentation with new plans. New prosperity translated to new expectations and new visions for the housing being constructed.

Population Growth and Transportation

From 1950 to 1960 the population of the state of New Hampshire grew from 533,242 persons to 606,921, a 13.8% increase. Between 1960 and 1970, New Hampshire gained an additional 130,760 people, a 19.1% increase over the previous decade. New Hampshire also had the 8th largest population increase by percentage of any state nationwide during the 1960s. The state's population continued to increase from 1970 to 1980, a decade which saw an increase of 24.8%.

Transportation routes were a major determinant in which parts of the state saw the greatest growth in the postwar period. In 1947 the State unveiled its first official map identifying the proposed three routes of the interstate system although the funding was not yet in place. The three routes consisted of an eastern coastal route (what would become I-95), a central route running through the middle of the state (I-93) and a third route between Concord and White River Junction, Vermont (I-89). The state's first modern highway was the Eastern Turnpike (now Interstate 95). The 14-mile Eastern Turnpike from the Massachusetts state line at Seabrook to the Maine state line at Portsmouth was opened in sections from 1950 to 1952 and became I-95 in 1956. In 1950 the New Hampshire State Legislature authorized the extension of the Eastern Turnpike from Portsmouth to Rochester (later renamed the Spaulding Turnpike). The first six miles to Dover opened in 1953 followed by 17 miles from Dover to Rochester in 1957. Also authorized in 1950 was the Central Turnpike which linked U.S. Route 3 at the Massachusetts state line at Nashua to Concord. Construction of this road (the F.E. Everett Turnpike) began in 1953 and the section between Nashua and Manchester opened in 1955. It was extended 17 miles north to Concord in 1958.²

New Hampshire's interstate highways (other than I-95) were made possible by the Federal Aid Highway Act of 1956 enacted during the administration of President Dwight Eisenhower. In 1957 the first piece of the future I-93 was constructed from Concord to Tilton. The lower section between Salem and Manchester opened by 1963, as was I-293 extending from I-93 in Manchester to the Queen City Bridge. Additional progress on I-93 took place in the late 1960s and early 1970s. The New Hampshire portion of the I-93 roadway was completed on June 2, 1988 when Franconia Notch Parkway was dedicated after overcoming environmental permitting challenges. The construction of Interstate 89 from Concord to Vermont took more than a decade. By 1960 21 miles of Interstate Route 89 had been completed. An additional eleven miles of highway south of Sutton opened in the fall of 1967. Eleven miles of roadway between Warner and New London was dedicated in January 1968 and later that year the Interstate reached Springfield. The final six mile stretch through Grantham and Enfield was opened in 1973.

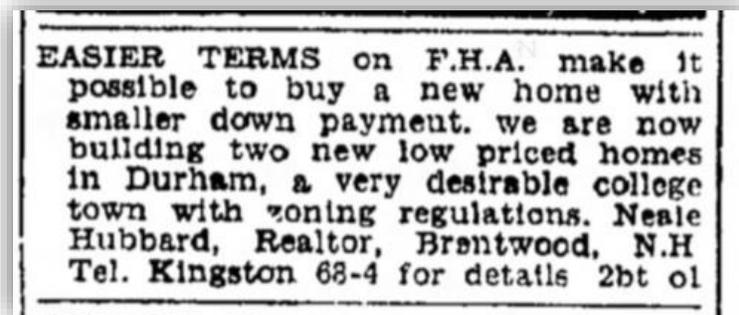
The state's population growth was also shaped by other factors including the growth or decline of various employers after the war. In the Seacoast region, the Portsmouth Naval Shipyard continued to be an important employer although it shifted toward submarine repair, maintenance and overhaul after the war. The existence of the shipyard also attracted numerous other industries. The development of Pease Air Force Base similarly had a major impact on housing needs. Groundbreaking for the base took place on July 3, 1955; it officially opened on June 30, 1956. As a result, approximately 11,000 workers and their families needed housing in and around Portsmouth because of Pease, in addition to the workers and families of the Portsmouth Naval Shipyard. The demand for new housing extended beyond Portsmouth to include much of Rockingham and Strafford Counties. Other significant Seacoast employers included Clarostat in Dover and General Electric in Somersworth. In the Nashua area, the growing importance of electronics to the state's economy resulted in greater housing demand in that region as well. For example, Sanders Associates was formed in Nashua in 1952, buying the old Jackson Mills. In 1957 Nashua was considered to be the fastest growing city in the state. Salem, Merrimack, Londonderry, Atkinson, Pelham, and Windham all grew by at least 100% in the period from 1960 to 1968. Increases of at least 50% were reported by Hollis, Hudson, Brookline, Amherst, Mason, Sandown,

² Patrick Harshbarger. Historic Context Statement: The New Hampshire Department of Transportation (NHDOT) Statewide Historic Bridge Inventory Update, Interim Draft Report, April 2017, pp. 3-46 to 3-54.

Derry, Hampstead, Kingston and Plaistow. Communities near cities and those with colleges also experienced sharp gains.³

The Federal Housing Administration (FHA)

The Federal Housing Administration was initially established in 1934 as part of the National Housing Act of 1934 to regulate interest rates and mortgage terms and improve housing standards. By insuring home mortgage loans made by banks and other private lenders, it encouraged them to make more loans to prospective home buyers. FHA-secured loans introduced the low down-payment home mortgage and extended the repayment period of home mortgages from 5-10 years to 20-30 years, helping to prevent foreclosures and allowing families with stable but modest incomes to qualify for a mortgage. The FHA-secured loans were important in that they provided incentives and reduced risk for developers. Nationwide, a quarter of all new housing starts between 1934 and 1970 involved a FHA mortgage.⁴



Ad in *Portsmouth Herald*, October 1, 1954

The FHA developed standards for residential construction which greatly influenced the subdivisions and single-family homes that were built between the late 1940s and early 1970s. The specified provisions for street orientation, lot size, room layout and form were intended to ensure that investments were financially sound but also resulted in housing formulas that were standardized. As described by Neil Larson, “What emerged was a new architecture that was distilled from progressive domestic plans, transitional wood construction methods and a fascination with modern technological conveniences and then reduced and compressed to meet a predetermined limited cost”.⁵ In order to meet a sales price of \$8,000 to \$10,000, drastic reductions in space and labor were necessary. Most of the original FHA-supported houses were constructed on concrete slabs that represented both a technological innovation and a cost-reducing reality. Second floors and dining rooms were also eliminated; most of the 800 to 1,000 square foot houses had two tiny bedrooms and a single bathroom. Simple, modest house forms

³ “Not everyone wants an old colonial”, *New Hampshire Profiles*, March 1969, p.44.

⁴ Mead & Hunt, Inc. and Louis Berger Group, Inc. *National Cooperative Highway Research Program: Report 723: A Model for Identifying and Evaluating the Historic Significance of Post-World War II Housing*. (Washington, DC: Transportation Research Board, 2012), 58.

⁵ Neil Larson, *An Overview of Post-World War II Housing and its Significance in Newton, Massachusetts*, 2001.

such as Capes and Ranches were favored and the FHA was extremely conservative in the house types it would accept. In some cases, carports were built instead of garages as a cost-cutting measure. Eventually, garages became standard.⁶



Ad in *Portsmouth Herald*, March 30, 1955

Veteran Housing Initiatives

The Post World War II housing boom was greatly facilitated by benefits extended to veterans after the war. The so-called “GI loan” in particular was a way for returning soldiers to establish credit and build a strong financial future including the potential for home ownership. Established in 1944 as part of the Servicemen’s Readjustment Act, the VA loan program initially established a maximum loan guaranty of \$2,000 for a maximum term of 20 years with no applications to be received more than five years after the end of the war. The government was not actually making home loans but was insuring them with a financial pledge from the government to repay a portion of the loan if the borrower was to default. Initially the guaranty was limited to 50 percent of the loan amount, not to exceed \$2,000. The average home price in 1944 was about \$8,600. Loans had a 4 percent interest rate cap.⁷

Rising home prices after the War made the original VA \$2,000 loan guaranty inadequate, putting veterans at a market disadvantage. In 1945, the maximum guarantee was increased to \$4,000 and veterans were allowed to buy a home within 10 years of the end of the war. In 1950 additional changes were made including boosting the guaranty to 60 percent of the loan amount, not to exceed \$7,500 and extending the maximum loan term to 30 years. It was first extended to Korean War veterans in 1952. Between the end of World War II and 1966, one fifth of all single-family residences built in the US were

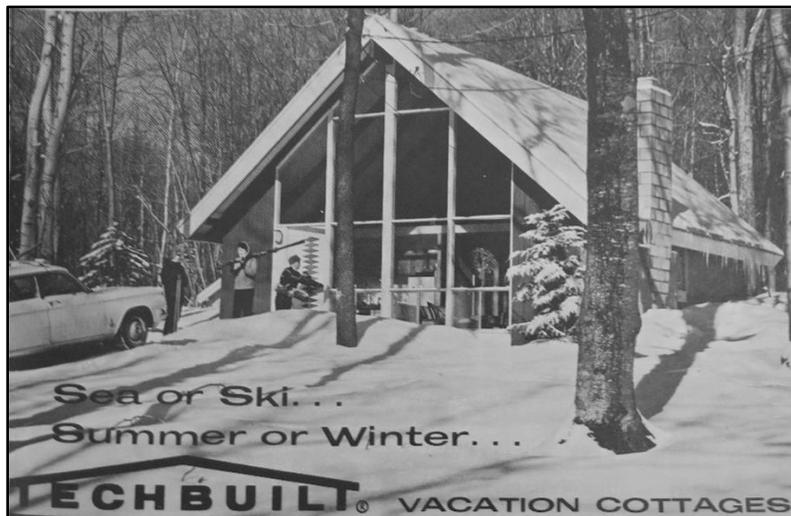
⁶ Ibid.

⁷ Chris Birk, “Seven Decades of Success: A Brief History of the VA Home Loan”, Veterans United Network, November 27, 2013.

financed by the home loan program for veterans of World War II or the Korean War.⁸ Additional changes were made to the VA loan program in the 1970s including allowing the purchase of condominium units and manufactured or mobile homes. With the influx of returning veterans and new financing tools, the demand for new cost-effective housing units increased dramatically and quickly. Between 1946 and 1951, over 2.5 million housing units nationwide were financed with FHA and VA loans.⁹

Increase in Vacation Home Popularity

The end of World War II also brought changes to vacation living habits. Record automobile production, road improvements, higher incomes, and more leisure time combined to make scenic New Hampshire a popular tourist destination in the postwar period. While some tourists came for a day or a week, others sought a more permanent connection in the form of a vacation home. In 1963-4 an estimated 175,000 seasonal home residents occupied over 36,000 vacation homes in New Hampshire.¹⁰ Many of these were older homes or camps but others were newly constructed. Across the state, small vacation homes built in the postwar period in the form of prefabricated camps, cottages, A-frames and chalets are found in proximity to waterbodies and mountains and are visible evidence of the growth of the vacation home phenomenon.



Source: *New Hampshire Profiles*, August 1963

⁸ Karen Jowers, VA loan history 101: From World War II to today's benefit, *Army Times*, Dec. 14, 2017. <https://www.armytimes.com/home-hq/va-loan-center/2017/12/14/va-loan-history-101-from-world-war-ii-to-todays-benefit/>

⁹ Leo Grebler, "New Housebuilding under FHA and VA Programs", the Role of Federal Credit Aids in Residential Construction, National Bureau of Economic Research, 1953, 16. <http://www.nber.org/chapters/c9295.pdf>

¹⁰ *Systems Analysis and Research Corporation, Economic Impact of Recreation, Vacation and Travel on New Hampshire*, (Concord, NH: State of New Hampshire State Planning Project, July 1965).

Postwar Building Materials

Wartime shortages of common building supplies such as wood, rubber, steel, iron and aluminum led to adjustments to typical building practices and innovations after the war. Plastics, aluminum and concrete all saw technological improvements during the war years that translated in part to new forms and design preferences after the war was over.

Valued as a strong and durable building material, plywood was declared an essential war material during World War II and was used to construct barracks, temporary huts, gliders, boats and crates. After the war, production expanded even further to meet the growing demand for new housing construction.

The war also resulted in changes in interior construction techniques. The limited availability of steel for construction affected the availability of metal lath as a plaster base and prefabricated boards could also be installed much easier and quicker. Dry wall construction had been around since the early 20th century but in the postwar years finally emerged dominant over traditional plaster walls.¹¹

Aluminum

During the war, aluminum production reached unprecedented levels due to its use in aircraft. As a result of a postwar surplus, aluminum manufacturers sought new markets for their product and found them in the construction industry. Aluminum siding was touted as a substitute for asphalt and asbestos and was also used for door and window frames.



Portsmouth Herald, June 29, 1959

¹¹Thomas C. Jester, editor, *Twentieth-Century Building Materials: History and Conservation*, (Washington DC: National Park Service, 1995), 43.

Mid-20th Century Residential Architecture in NH: 1945-1975

The homes constructed by Devcon, Inc. at Stark Estates in Nashua in 1960 advertised “bonderized aluminum exteriors with Dupont’s baked-on Lucite finish in a variety of colors”. Almost sixty years later there are still homes in the neighborhood that retain their original aluminum siding.



National's revolutionary new homes feature bonderized aluminum exteriors with Dupont's baked-on Lucite finish in a variety of colors . . . a finish that keeps its original color through years of wear. And what's more, this beautiful no sheen surface wipes off clean with a damp cloth as easily as you wipe off a refrigerator. Every inch of the exterior of these new homes is protected by this new finish — sidewalls, shutters, doors, windows, gutters, down spouts, and trim. No rust, corrosion, chipping or cracking to worry about.

Top: 38 Burnside Street, Nashua

Bottom: Advertisement for Stark Estates in *Nashua Telegraph*, June 4, 1960.

Asbestos

Hardly a 20th century invention, asbestos has been used in building, textiles and construction for the last 2000 years due to its desirable physical properties including sound absorption and resistance to fire. The use of asbestos continued to grow in the Post War period until the cancer-causing effects of asbestos dust were fully understood. The use of asbestos was at its highest in the 1940s to 1970s period when some 3,000 products containing the substance were being sold including adhesives, cement, tiles, roofing, and exterior siding. Johns-Manville Corporation operated a plant on Bridge Street in Nashua that produced asbestos tiles and asbestos plates from 1900 until it was closed in 1985.



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Portsmouth, N. H.**

Source: *Portsmouth Herald*, September 16, 1953

Perma Stone

With traditional building materials such as brick and stone in short supply after the war, newer materials found considerable popularity. One example was Perma Stone, a simulated masonry product that was first developed in Columbus, Ohio in 1929. Faux stone was also marketed under other names including "Formstone". There are two types of simulated stone: that manufactured off-site in molds and installed somewhat like real stone and cement-based materials mixed on site and applied in layers. Perma Stone details embellish many 1950s Ranches.



19 A East Dunstable Road, Nashua
Source: Bingmaps

A collage of Perma Stone related content. On the left is a 'FRANCHISE AVAILABLE' advertisement for Perma Stone Company, located at 719 E. Hudson St., Columbus 11, Ohio. In the center is a close-up photograph of the Perma Stone texture, showing a mix of grey and reddish-brown tones. On the right is a newspaper advertisement for Perma Stone, featuring the text: 'PERMA STONE. Beautify Your Home with a Beautiful LASTING FINISH. Guaranteed 20 Years. Free Estimate. HARRY TUFTS TU 3-5275'.

Nashua Telegraph, Sept. 28, 1957

Mid-20th Century Residential Architecture in NH: 1945-1975

Hudson poultry farmer, Harry Tufts, constructed a house in Litchfield in 1952 that incorporated many Perma Stone features including an exterior and two fireplaces and dividing walls inside. By 1957, Tufts was advertising his Perma Stone installation skills in the local newspaper. He and his wife moved to California in 1961, where he died in 1965.



Harry Tufts House, 231 Derry Road, Litchfield (Demolished 2018)
Source: Photos by author



In Londonderry, in close proximity to Grenier Field in Manchester, the Meadow Estates subdivision was laid out along Rockingham Road in the mid 1940s with houses constructed into the late 1950s. The ranch-style houses in this subdivision illustrate the efforts of another Permastone distributor, Emile Lanoie, who owned four lots in the subdivision and also owned the Perma-Stone Hampshire Company based in Manchester.¹²



113 Rockingham Road, Londonderry
Source: Assessors Records

These were relatively rare examples of the use of Permastone for new construction. Most often, Permastone was used to remodel and modernize existing structures.

Concrete Block

Developed during the early 20th century, concrete block was transformed after World War II from a basic building material to a decorative feature. The Duracrete Block Company of Manchester was established in 1946 and was the largest single cement block plant in the East during this period. It was founded by Dante Donati (d. 1984) whose father made decorative concrete masonry. During World War II, Dante Donati became interested in precast concrete blocks while working on the construction of Grenier Air Force Base and purchased a twenty-dollar molding machine which he operated evenings after work.¹³ In 1953 Donati was awarded a patent for a removable mold for making batter blocks. By 1966 his company produced 350 kinds of blocks at a rate of about 50,000 per day. Its product lines included “Duracrete” and “Bes-Stone”.

¹² Elaine Stiles, Preservation Company, “Area form for Meadow Estates Historic District, Londonderry”, October 2001. Lanoie lived in a Permastone ranch that still stands at 800 S. Beech Street in Manchester.

¹³ Lombard deGuern Rice, “Aggregate Production in New Hampshire”, Master of Business Administration thesis, Boston University, 1953.

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Donati House, 80 Ministerial Drive, Bedford (A. Majeski, Architect)
Source: *New Hampshire Architect*, July 1955

Modular concrete blocks were used to construct a number of residences throughout the state during the Post War period, particularly in the Manchester area. In the 1950s Dante Donati laid out a subdivision in the Ministerial Road area of Bedford and developed the area with contemporary masonry homes. The buildings were built with masonry units manufactured by the Duracrete Block Company to show the public what could be done with concrete.¹⁴ Donati's own house at 80 Ministerial Drive (above) was designed by architect Alexander Majeski. The house was described as fireproof, insect proof and rot proof with natural insulation, both winter and summer.¹⁵ Other architects who designed residences in the area included Nicholas Isaak and Leo Provost.



Pothier House, 1 Kalmia Way, Bedford
Source: Realtor photo

¹⁴ *New Hampshire Architect*, June 1955.

¹⁵ *New Hampshire Architect*, March 1956.

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The most impressive concrete block home in the state is undoubtedly that of Dr. Touric Kalil in Manchester (117 Heather Street, 1955) designed by Frank Lloyd Wright. The architect utilized a specially designed cement block manufactured by Duracrete to emphasize the simple, linear form of his Usonian style house. Roughly 16 inches wide and three inches thick, the blocks are secured using a knit block system of steel rods and grout. The floor of the home is a concrete slab which accommodated the house's radiant heating system.¹⁶



Dr. T. H. Kalil House, 117 Heather Street, Manchester

Source: New Hampshire architects tour the Kalil House under construction, *New Hampshire Architect*, June 1957



Kalil House today

¹⁶ *New Hampshire Architect*, June 1957.

The trend toward utilizing concrete in residential construction was especially prevalent in Manchester, owing to the nearby Duracrete concrete plant. These houses were also frequently published in the state architectural magazine, *New Hampshire Architect*, due to the corporate sponsorship of Duracrete. The Stanley Vogel family lived in a Y-shaped house constructed of stone and concrete block in Manchester (95 Ledgewood Road) designed by Dirsa and Lampron in 1955.¹⁷ A few years later Phil Paquette & Son, Inc. constructed a number of masonry houses in the Crestview Road neighborhood of Manchester, designed by Bedford architect Alexander Majeski.¹⁸

Elsewhere in the state, the Arthur Whitcomb Company, a concrete and equipment company in Keene also promoted the possibilities of concrete masonry. Whitcomb himself lived in a concrete block Ranch-style house at 45 Greenwood Avenue in Keene designed by architect John Holbrook in 1958. In 1968 Concord architect Arnold Perreton filed for a patent for a new type of insulated concrete block.

Fiber Reinforced Plastic/Fiberglass

Reinforced plastics were used before World War II but became more useful with the introduction of new resins in the early 1940s that introduced glass fibers that could be used for reinforcement. The material soon found applications in the building industry including the production of roofing trim, gutters and flashing, corrugated sheeting, roofing, and canopies. Compared to wood or metal, fiberglass was lightweight and offered easier handling and faster installation.



Fiberglass was also used to construct a few unique dwellings. The Monsanto “House of the Future” was an attraction at Disneyland in Anaheim, California from 1957 until 1967 when it was demolished. It had modular fiber reinforced plastic walls filled with foam insulation. In the 1960s the Mexican government

¹⁷ *New Hampshire Profiles*, July 1956; *New Hampshire Architect*, June 1957.

¹⁸ *New Hampshire Architect*, May 1960.

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teamed with Owens-Corning to develop inexpensive pod-like houses which were constructed from 15 foot-long fiberglass tubes, cut in half, with 2 inches of foam insulation between them.¹⁹

In time, a developer started making these pod houses in Florida, selling franchises in the U.S. There were at least two dealers in New Hampshire – one located in Meredith in the 1960s and another operated by Bob Gringas in the Nashua area in the early 1970s. It is estimated that about a dozen of the fiberglass houses were constructed in the state. They included houses in Meredith, Hudson, Victor Road and Ridge Road in Nashua, Merrimack, two in Manchester, Hopkinton and Enfield.²⁰ Only the houses in Hopkinton (470 Jewett Road) and Enfield (218 Old Route 10) are known to survive.



218 Old Route 10, Enfield
Source: Realtor photo

Constructed on a slab, the houses were touted as affordable and energy efficient. The fiberglass tubes were put together in various arrangements by bolting together various flanges and covering the intersection point with a dome and central skylight. The house in Hopkinton was built in 1973 by David Gintzler. The Enfield house was reportedly constructed in 1972.



Hopkinton pod house



Enfield pod house

¹⁹ David Brooks, "Starfish? Space station? Live-in marshmallow? Actually, it's a Hopkinton home", *Concord Monitor*, July 6, 2017.

²⁰ "Typically New England it is not", *Nashua Telegraph*, July 15, 1988, 2.

IV. Prefabricated Houses

The postwar period was a time of innovation and new opportunities. This spirit is reflected in the rise of the prefabricated house. Prior to World War II prefabricated designs accounted for less than 1 % of all housing built in the United States. By 1942, prefab houses supplied 16% of the new single-family housing starts. At the end of the war there were 75 manufacturers vying to supply prefab housing nationwide.²¹

Cheaper to build and just as durable as traditional dwellings, the prefab house became popular throughout the country, including in New Hampshire. They were moderately priced and well-built and could be customized with a variety of add-on features to fit any size family and budget. The various brands of prefab houses were marketed by franchised local dealers. The designs came in a variety of styles, reflecting the tastes of the day.



Early stages of on-site construction
Source: *New Hampshire Profiles*, August 1964

²¹Richard M. Candee, *Building Portsmouth: The Neighborhoods & Architecture of New Hampshire's Oldest City*, (Portsmouth NH: Back Channel Press, 2006), 223.

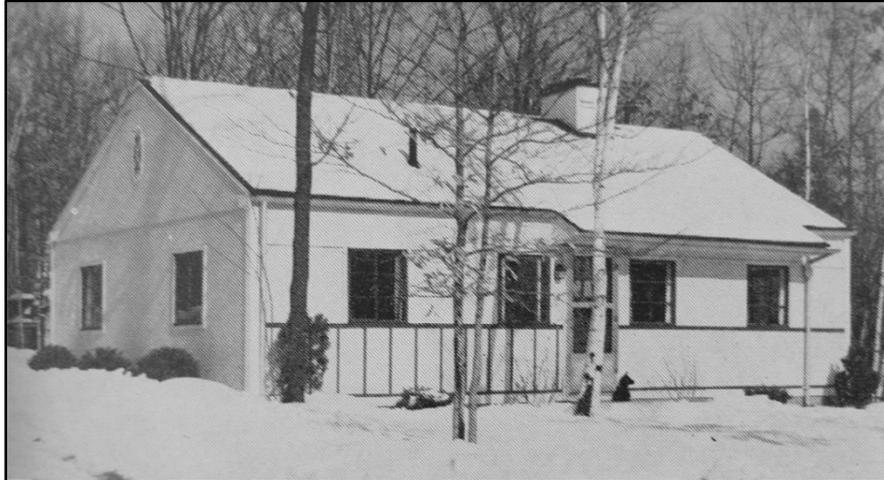
Gunnison Home/U.S. Steel Homes

Gunnison Magic Homes was one of the first successful companies in the U.S. producing prefabricated houses. Founded in New Albany, Indiana in 1936 by Foster Gunnison, its origins predated World War II. Gunnison used an assembly-line system to produce pre-fab homes built with insulated plywood panels. In 1944 U.S. Steel acquired 70 percent interest in the company and in 1953 when Gunnison retired, U.S. Steel bought out the remaining interest and changed the name to United States Steel Homes.

In 1950 Gunnison Homes were available in eleven sizes, ranging from a 24' x 24' model with two bedrooms to a four bedroom, 2 ½-bath version. Just like a traditional house, the Gunnisons had built-in bedroom closets and kitchens.

James G. Crump of Lincoln was an authorized dealer for United States Steel Homes, Inc. and a model home was built on Dover Point Road in Dover.²² There are two known Gunnison homes in Dover – at 60 Dover Point Road and at 173 Dover Point Road. A few years later Crump was represented by Harvey G. Bennett of Somersworth, raising the likelihood that there are also examples there as well.²³ In Sunapee U.S. Steel Homes were sold by Stocker and Sons.

In March 1956 *New Hampshire Profiles* included photos of two Gunnison homes in Concord. The Donald Waite House at 20 Little Pond Road was 36' x 24' with three bedrooms and was sheathed in marine plywood. Mr. and Mrs. Charles P. Johnson, Jr. lived in another Gunnison house on Putney Avenue in Concord (no longer extant or greatly altered).



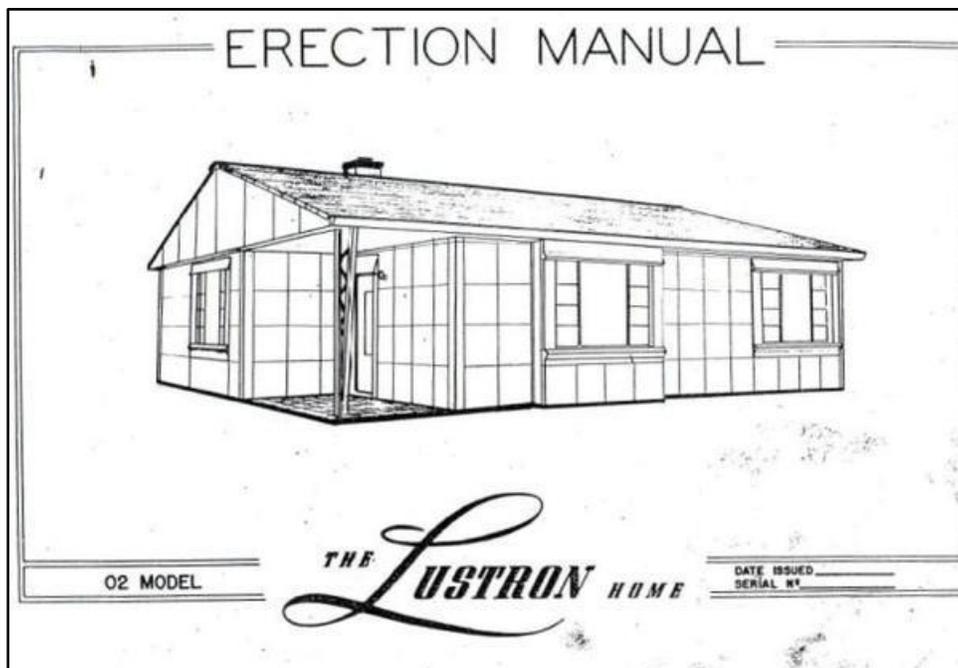
Donald Waite House, Concord
Source: *New Hampshire Profiles*, March 1956

²² *Portsmouth Herald*, April 11, 1952.

²³ *Portsmouth Herald*, April 4, 1954.

Lustron houses

The Lustron house was a prefabricated enameled steel dwelling developed after World War II in response to the shortage of homes for returning GIs. Founded by Cart Stranglund, the Lustron Corporation had a plant in Columbus, Ohio where it manufactured 2,498 homes between 1948 and 1950. At an initial cost of approximately \$9,000 the houses sold for about 25% less than comparable conventional housing. The Lustron Corporation declared bankruptcy in 1950 due to a combination of production delays, distribution challenges, escalating prices and the zoning codes in some communities that prohibited homes with steel chimneys. Three all-metal Lustron homes were sold in Portsmouth in 1950. Only one, at 150 Sherburne Road, has been identified but is hidden behind vinyl siding and a later addition.²⁴ An additional Lustron house is rumored to have been erected in the Seminary Hill area of Lebanon but this has not been verified.



Butler Aluminum houses

The Butler Manufacturing Company of Kansas City also briefly experimented with the development of an aluminum kit home. Charles McNeill of Kingston had one such dwelling with aluminum panels on all but the façade which was sheathed in redwood sheathing. The house was featured in *New Hampshire Profiles* in 1957.

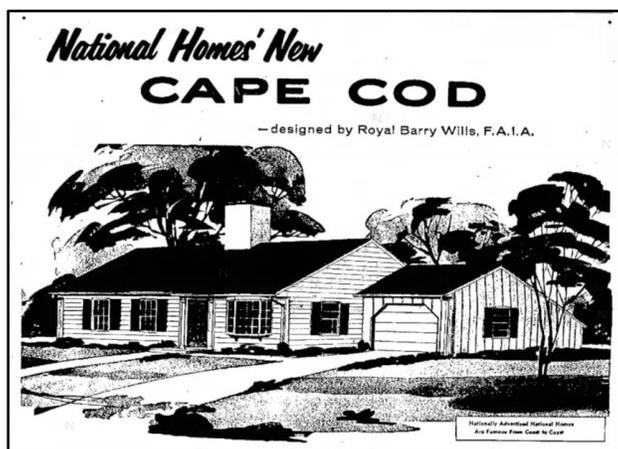
²⁴ Candee, *Building Portsmouth: The Neighborhoods & Architecture of New Hampshire's Oldest City*, 223.

National Homes

In the Post World War II period, National Homes of Lafayette, Indiana was the country's largest manufacturer of prefabricated homes. The company began production for sale in 1940 and during the war emphasized public war housing. Later, its production included prefabricated and modular houses, apartments, mobile classroom units, and mobile homes. The company also offered financing and insurance to buyers and were G.I. and F.H.A. approved. The company's structures were sold both by its own distribution network and through independent dealers. Advertisements were found in many local newspapers and national magazines. The prefabricated housing was comprised of components built in an off-site factory and assembled on the site of the house. Once a foundation was laid, a house could be finished in two to five weeks. In 1958 the company estimated that it produced one out of every forty houses built in the United States; all were pre-fabricated.²⁵

In New Hampshire, dealers all over the state offered National Homes prefabricated dwellings. They included Trumbull-Nelson Co., Inc. in Hanover; David A.M. Sturrock in Laconia; Whitney-Weston Corp. in Franconia; Foster & Bamford Inc. in Concord; Nashua Ideal Homes Corp. and J. Albert Ouellette in Nashua; Wood-Lee Co., Inc. and Maxam Brothers in Portsmouth and Sumner Enterprises, Inc. in Hampton. In 1952 the company included thirty different floor plans ranging from two to four bedrooms, on slabs or with full basements and with Youngstown kitchens. In 1955 a company representative stated that forty National Homes had been erected in the Nashua area and over 200 statewide.²⁶ In Nashua 75 prefabricated homes, mostly Ranches, were built in the Stark Estates development in the north end by 1960 with another 75 planned.²⁷ The exact number of National Homes built in the state are not known. There are documented National Homes from the 1950s known to exist in Nashua, Hampton, Durham and Portsmouth although in most cases they have been altered or expanded.

National Homes commissioned some designs from well-known architects. In 1958 a Cape Cod model designed for National Homes by Massachusetts architect Royal Barry Wills was available in Sherwood Park, on Madbury Road in Durham. This was one of ten Wills designs available from the company.



Source: *Portsmouth Herald*, Feb. 20, 1958

²⁵ *Portsmouth Herald*, February 21, 1959, p. 3.

²⁶ *Nashua Telegraph*, April 28, 1955.

²⁷ *Nashua Telegraph*, October 28, 1960.

LOW DOWN PAYMENT \$450.

LOW MONTHLY PAYMENTS \$66.14

***TOTAL COST ONLY \$9,000**



S

ee this new 1953 Coronet ...by National Homes

HERE ARE SOME OF THE "YEARS - AHEAD" FEATURES:

- Living, dining and kitchen areas flow together to provide for open, modern living, yet can be divided into individual spaces or rooms by decorative folding doors.
- Dramatic new ceiling to floor Thermopane or Twinflow picture window in living room.
- New shoulder-high windows for bedrooms and bath give more privacy and increased wall space for placement of furniture.
- New awning-type aluminum windows, with aluminum frames, exterior and interior trim, and screens.
- New combination steel door frames and trim.
- New step-saving Crosley kitchen with Formica-top work surfaces on all base cabinets.

- New laundry alcove includes Bendix automatic washer and dryer.
- Extra large closets are floor to ceiling in height and attractively closed with full-width folding doors.
- Spacious alcove-type bathroom features an extra large medicine cabinet with sliding mirror doors, full-width vanity shelf and built-in lighting.
- Inside storage for such items as trunks, baby carriage, housekeeping equipment, canned goods, etc.
- Outside-access storage for bicycles, wagons, garden tools, lawn chairs, screens, etc.
- Dozens of other amazing new features!

This sensational all-new National Home has been color-styled and furnished by Beatrice West, exactly as advertised in Life, Saturday Evening Post and other leading national magazines.

L O C A T I O N O F O P E N H O U S E

No. 26 Leavitt Road, Hampton, (Just off High Street)

Dealer

SUMNER ENTERPRISES, Inc.

20 High Street Tel. 576 Hampton, N.H.

• Price for complete home, ready for occupancy, not including cost of lot. This stunning 3-bedroom 1953 model National Home is built on an insulated concrete floor; wood floors, with or without basement, at slight additional cost. National Homes are available in many different designs and floor plans—2-, 3- and 4-bedroom sizes—some with rear living rooms; with porches, barbecues and garages if desired; also some models with bath and a half. Ask us for complete details.

© 1952



National Homes Model, 26 Leavitt Road, Hampton
Portsmouth Herald, Oct. 25, 1952

New England Homes

A local (New Hampshire) manufacturer of pre-assembled custom homes during this period was New England Homes, established by the Donahue family in 1961 and located at Freeman's Point (Atlantic Heights) in Portsmouth. The company initially manufactured panelized structures and added modular designed buildings in 1968. All manufacturing occurred at Portsmouth until 1987 when it was moved to Greenland. In 1995 panelized construction was discontinued to focus on modular. New England Homes was acquired by LaValley Building Supply in 2011 and moved to Claremont.²⁸

the Amazing
NEW ENGLAND HOME

FACTORY PRE-ASSEMBLED QUALITY HOMES DESIGNED FOR YOUR LIVING PLEASURE

The "Laconia C" one of 22* basic styles
available at amazingly low cost!

*Or we will build to your plan or specifications.

2-3-4 BEDROOM — • SPLITS • CAPES • GARRISONS
• RANCHES • SPLIT RANCHES • MULTIPLE DWELLINGS

The "Laconia C" shown here is just one of many, many styles, sizes and models available to you at the amazingly low New England Homes' price . . . starting as low as \$3200! This one price includes design and construction of the entire exterior shell, erected on your foundation. Once the shell is erected, you can finish the interior at your own pace, or make arrangements with New England Homes' builders or sub-contractors. As to finances, we will be glad — at no additional cost — to provide you with local bank guidance and assistance. All New England Homes are VA and FHA approved. Send today for your free copy of our fully illustrated brochure. Learn how you can have the home of your dreams NOW . . . and at a price well within your reach.

NEW ENGLAND HOMES, INC.
P.O. BOX 1063 • PORTSMOUTH, NEW HAMPSHIRE
GEnevo 6-8830

Gentlemen: Please send me a free copy of illustrated brochure describing complete selection of quality homes.

Name _____
Street _____
City _____ State _____

Source: *Portsmouth Herald*, Oct. 26, 1962

In the 1960s and 70s the company offered traditional styles with an emphasis on New England saltboxes and gambrel roofs. The panelized homes required a crane for erection. Typically, the company sold the exterior shell package to a local builder rather than directly to the consumer.²⁹

²⁸ New England Homes Company Website (www.newenglandhomes.net).

²⁹ Judith and Bernard Rabb, *Good Shelter: A Guide to Mobile, Modular, and Prefabricated Houses including Domes*, (New York: Quadrangle, 1975), 108.



Fully assembled walls and framing in the New England Homes Portsmouth factory
Source: Rabb, *Good Shelter* (1975), 10

The company did erect a few model homes including one on Birch Road in North Hampton in 1961.³⁰ They also built a six-room Gambrel Cape model home in the Waverly Acres subdivision off Post Road in North Hampton.³¹ That house (12 Stevens Road) was built in 1962 and sold to Joseph Burrell that same year.

Another house constructed by New England Homes is located at 7 Glendale Road in North Hampton. The Colonial Style dwelling with two-story portico was erected in 1963 and sold by the company to Richard Tourtellot.



New England Homes, Inc. house at 7 Glendale Road, North Hampton
Source: Assessors Records

³⁰ *Portsmouth Herald*, December 8, 1961.

³¹ *Portsmouth Herald*, September 8, 1962.

Techbuilt Houses

The Techbuilt system series of homes were built with prefabricated panels for the walls, floor and roof. The initial design was by Albert Carl Koch (1912-1998) who was born in Milwaukee, Wisconsin and was educated at Harvard College and the Harvard University Graduate School of Design. He completed his studies in 1937 and his professors included Walter Gropius, founder of the Bauhaus in Germany. After his graduation, Koch lived briefly in Sweden. When he returned to the U.S. he brought with him the belief that the American lifestyle would be best served by a housing system that could be easily assembled, disassembled and reconfigured. His belief in affordable prefabricated housing led him to design the original Acorn House in 1946 and redesign the all-steel Lustron House in 1949. He introduced the Techbuilt house in 1953 and eventually offered twenty-two models. Over 3,000 houses were sold in 32 states in the US before 1963.

The Techbuilt houses could be one or two stories but were typically capped by a low pitch gable roof with overhanging eaves, post-and-beam construction and a rectangular plan. The modular walls were typically sheathed in cedar vertical boards. The predominant window was a casement unit with larger expanses of glass extending up to the eave of the gable ends. Inside, the second floor living room was one of the character defining features.



TECHBUILT

Your home in
NEW HAMPSHIRE

The prize winning Techbuilt house, designed by Carl Koch for easy modern living, offers you two full floors . . . bright airy bedrooms . . . big sunlit living room with fireplace at a price within your budget. Vacation Cottages too!

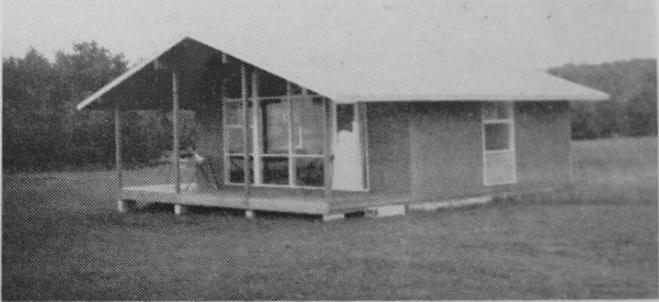
William A. Lee

YOUR TECHBUILDER
IN THE CONCORD AND
SEACOAST AREA

2 LOCKE RD., HAMPTON, N. H.

Mid-20th Century Residential Architecture in NH: 1945-1975

Techbuilt established a network of franchised builders who were educated as to the particulars of constructing the Techbuilt house. In 1954 there were 16 franchised builders and another 23 builders in negotiation for franchises in 16 states. If there was no authorized builder in an area, Techbuilt would also work with a local builder. This kind of quality control helped insure that Techbuilt was a house that could meet building codes and get bank financing. Among the known "Techbuilder Distributors" in New Hampshire was William A. Lee of Hampton who worked in Concord and the Seacoast Area. Town & Country Homes of New Hampshire, Inc. had a model "Techbuilt" vacation cottage on display at McIntyre Circle in Laconia. Foster Builders had an office in a Techbuilt structure they built at 71 Clinton Street in Concord (still standing).

<p><i>Lakes Region</i></p> <p>TOWN & COUNTRY HOMES OF NEW HAMPSHIRE, INC. McIntyre Circle Jct. Rts. 3 & 11 The Weirs, N. H. Tel. Laconia 896</p>	
<p>VISITORS WELCOME TO INSPECT MODEL "TECHBUILT" VACATION COTTAGE ON DISPLAY AT McINTYRE CIRCLE. Designed by award-winning pre-fab architects; flexible, comfortable, easy on budget. Do-it-yourself with basic package kit, or let us build it for you.</p>	

Source: *New Hampshire Profiles*

In March 1956 *New Hampshire Profiles* published photos of the Techbuilt home of Charles Nims, a bank vice president who lived at 68 Greenfield Street in Manchester.



68 Greenfield Street, Manchester

Source: Assessors Records

Mid-20th Century Residential Architecture in NH: 1945-1975

Examples of Techbuilt homes are found all over the state. In Nashua Edwin and Vera Bernstein of Jaffrey bought a lot in the Broadacres neighborhood in September 1960 and built the large Techbuilt home at 14 Franconia Drive.



14 Franconia Drive, Nashua
Source: Photo by author

Another version with a Techbuilt carport is visible at 21 Columbia Avenue in Nashua.



21 Columbia Avenue, Nashua
Source: Realtor photo

Mid-20th Century Residential Architecture in NH: 1945-1975

In the Seacoast area, Paul and Claire Wright built a one-story Techbuilt house in Durham (3 Lundy Lane) in 1958-9. Bernard Barteau, a developer, constructed a Techbuilt house at 50 Barbour Road in Hampton c.1964.



50 Barbour Road, Hampton
Source: Realtor photo

In Hampton Falls, Peter Kliegle had a Techbuilt home built with used brick from the site of the Weare Mill.



Kliegle Home, Hampton Falls

Mid-20th Century Residential Architecture in NH: 1945-1975

Dartmouth College Professor Thomas Vance lived in a 1955 Techbuilt at 2 Chase Road in Hanover; another house is found at 1 Kingsford Road in Hanover.



2 Chase Road, Hanover
Source: Assessors Records

Rivercrest, on Lyme Road (Rt. 10) in Hanover, was a development of thirty Techbuilt duplexes constructed in 1958 to house a combination of faculty and students from Dartmouth College and the nearby Mary Hitchcock Memorial Hospital.³² It was demolished c.2005.

In the southwest part of the state, Techbuilt houses include the 1966 Hewitt house in the Latin Quarter, one of several built in Dublin (off Lake Road South).³³ Joseph and Ruth Ullman built a state-of-the-art Techbuilt home on Squam Lake in Moultonborough in 1956 (292 Harvard Camp Road). Another lakeside Techbuilt had been built in Newbury in 1954.³⁴

³² Bill Johnson, "The Techbuilt House: Carl Koch at the intersection of industry and architecture", Paper for Geography 333, Fall 2017. <https://rsimodern.files.wordpress.com/2017/12/geog-333-johnson-final.pdf>

³³ Dublin, New Hampshire Historic Resources Inventory, 1983.

³⁴ Techbuilt Mid-Century Modern Homes, Facebook Group.

V. Use of Plan Services and Architects



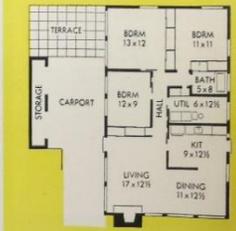
House Plans

If you wanted to build a house in the postwar period there was no shortage of available inspiration and source material. Magazines such as *Better Homes and Gardens*, *House Beautiful* and the *Saturday Evening Post* included drawings and you could purchase plans by mail for just a few dollars. Many newspapers also included a House of the Week feature. Prospective home builders could also buy books that were compendiums of these plans.



Because of its handsome simplicity, its efficient use of space, and its practical construction economies, Better Homes & Gardens Five Star Home No. 2301 is

**An achievement in
small-house planning**



- * You can buy plans for this
- * or any Better Homes & Gardens
- * Five Star home. See page 103.

Source: *Better Homes and Gardens*, 1953

Mid-20th Century Residential Architecture in NH: 1945-1975

There are undoubtedly many houses across the state that were constructed utilizing one of these sources although few are known to us today. Oral history is typically the only way to discover such history. For instance, an interview completed as part of the preparation of an inventory form for the Wallace and Mary Hale House at 165 Lafayette Road in North Hampton revealed that Mrs. Hale had chosen a house design and plan from a *Better Homes and Gardens* magazine. Mrs. Hale's father, Joshua F. Drake, was a carpenter and built the half Cape home for his daughter and her new husband in 1953-4.³⁵ In Dublin, there is a Garrison Colonial house on Snow Hill, constructed about 1964, that was also inspired by a plan published by *Better Homes and Gardens*.³⁶



165 Lafayette Road, North Hampton
Source: Preservation Company

During the post-World War II period, the building products industry was also a ready source of design inspiration and generated countless publications offering stock plans through plan services. Stores like Chagnon Lumber in Nashua advertised the “large assortment of house plans and blue prints” available in the store.³⁷ These may have included plans from National Plan Service, Inc. (NPS) which specialized in middle-class house designs and was one of the most prominent house plan companies of the period. NPS and its competitors typically selected a series of plans and by arrangement with lumber and building suppliers, would print these brochures to entice consumers to purchase the complete plans and materials. The covers of most of these catalogs bear the imprint of the lumber company with its location and contact information. Other companies producing color catalogs included Weyerhaeuser and Grossman's of Quincy, Massachusetts (Low Cost Quality Homes) which had various stores including one in Salem.

³⁵ Reagan Ruedig and Lynne Monroe, Inventory form for Wallace and Mary Hale House, 165 Lafayette Road, North Hampton (NHA0018), June 2017.

³⁶ William Morgan, *Monadnock Summer: The Architectural Legacy of Dublin, New Hampshire*, (Boston: David R. Godine, 2011), 113.

³⁷ 1955 Nashua Directory.

Architects

Although the vast majority of the thousands of dwellings constructed in New Hampshire in the postwar period were not professionally designed, there were still a number of important architects working in the state during the Mid-20th Century period. A few residences in New Hampshire were designed by noteworthy out-of-state architects such as Frank Lloyd Wright, Hugh Stubbins, Henry Hoover and Royal Barry Wills (see Appendix B). But more often, those who wanted to hire an architect to design their home selected an in-state architect. The 1962 *American Architects Directory* published for the American Institute of Architects (A.I.A.) includes listings for approximately thirty architects living in New Hampshire who were members of the A.I.A. and did residential work. By the time the 1970 Directory was published the number was closer to fifty (see Appendix A).

The architects practicing in the state generally favored one of two schools of design: the traditional or the modern. After World War II the modern movement had an increasing influence on traditional housing types although Colonial Revivalism never died out entirely. Where the architects practicing in New Hampshire came from, where they had studied and traveled and the preferences of their clients all played important parts in the buildings constructed in the postwar era.



Eric Huddleston

Source: *UNH Magazine*, Winter 2002

In the early 20th century, most of the state's practicing architects were trained at the University of New Hampshire (UNH). There is no one that shaped architecture in the state during the period more than Professor Eric T. Huddleston (1888-1977). Born in Indiana and educated at Cornell University, Huddleston came to the University of New Hampshire from the Midwest in 1914 and founded the Department of Architecture in 1918. In addition to teaching, Huddleston also served as supervising architect for all the buildings constructed on the UNH campus between 1916 and 1950. Between 1933 and 1939 he supervised the Historic American Buildings Survey of New Hampshire which gave many unemployed New Hampshire architects including his students work as well as a sound footing in the

state's historic architecture. He founded the NH Society of Architects in 1928, secured the charter to give NH its chapter of the A.I.A. and became the state's first Fellow of the American Institute of Architects in 1953. Supplementing his work at UNH, Huddleston opened his own private architectural practice in 1935 and continued to consult with other architects until his retirement in the 1960s. Throughout his career, Huddleston worked almost exclusively in the Colonial Revival style.

Huddleston's influence on the state's future architects was immense. From the time he established UNH's Department of Architecture in 1918 until it closed in 1944, as a result of World War II, some 130 men and women studied under Huddleston and earned their architectural degrees. Of these, eighteen became owners of architectural firms in the state. Of the remainder, five owned architectural offices in other states; 15 worked in architectural offices throughout NH and 26 were employed by architectural offices outside the state.³⁸ Among the Huddleston/UNH alums who practiced in New Hampshire in the postwar era were John Betley, Mitchell Dirsa, Russell Harmon, Irving Hersey, Malcolm Hildreth, Nicholas Isaak, Richard Koehler, Joseph Lampron, Edward Miles and Norman Randlett. Though all were shaped by Huddleston's Beaux Arts/Classical vocabulary training, once they left UNH they displayed a wide range of styles, from traditional to modern, in their works.

Outside of the architectural incubator at UNH, there were other influences as well. Some architects found their way to New Hampshire from Harvard, M.I.T., and other Boston institutions. As noted by architectural historian William Jordy, "Like psychiatrists of the period, modern architects tended to cluster; they often stayed close to the architectural schools from which they had graduated."³⁹ The Harvard connection was especially important.



Walter Gropius with Harvard School of Design Students, 1946

³⁸ Christopher D. MacLeod, "Portrait of Eric T. Huddleston, FA.I.A.," *Granite State Architect*, Nov.-Dec. 1966.

³⁹ William H. Jordy. *American Buildings and Their Architects – Volume 5: The Impact of European Modernism on the Mid-twentieth Century*. New York: Oxford University Press, 1972, p. 171.

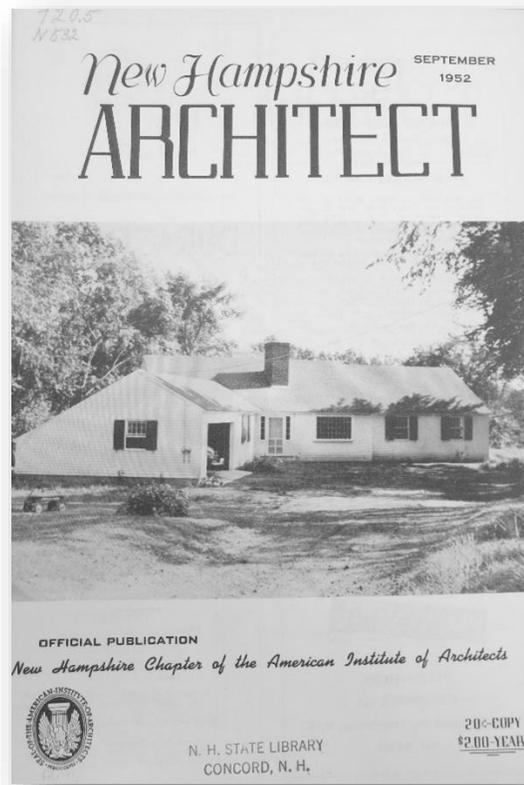
Walter Gropius, founder of the German design school known as the Bauhaus and one of the most influential architects of the 20th century, arrived in Cambridge in 1937 and taught architecture at the Harvard Graduate School of Design until his retirement in 1952. Groundbreaking Hanover architects Edgar “Ted” Hunter and his wife Margaret “Peg” met at Harvard and studied under Walter Gropius. Ted Hunter received his M. Arch from Harvard in 1941. Peg Hunter received a B.A. from the Harvard School of Design in 1945 and was a member of the first class of female architects at the Harvard School of Design in 1942. After the war, another, smaller group of architects who would later practice in New Hampshire studied at the Harvard Graduate School of Design, thanks to the G.I. Bill. These included Peter Garland, Arthur Eldredge, Alexander (“Sandy”) James, Dick Dudley and others.⁴⁰

Another prominent New Hampshire modernist architect, David Campbell (1908-1963) received an architecture degree from Harvard in 1934, prior to the arrival of Walter Gropius. Despite this, he exemplified the concurrent interests in design, arts and crafts furthered by the Bauhaus movement of the 1920s and 1930s. Campbell had studied at Northeastern University for a year before receiving a B.S. from UNH in 1929. The impact that Eric Huddleston had on his career is not known. Other New Hampshire architects that studied at Harvard before Gropius’ arrival included Alfred Granger and William White.

New Hampshire architects John Carter and Alexander James both received their architectural training at Yale where they would have been influenced by professors such as Louis Kahn and Eero Saarinen. W. Brooke Fleck and John Holbrook attended the University of Pennsylvania.

For many of the architects practicing in New Hampshire in the postwar period, residential commissions comprised a small proportion of their work. Those that chose to emphasize residential construction often had made critical connections with potential clients that shared common interests. For example, many of David Campbell’s houses were designed for artisans and craftsmen. The Hunters received work from a number of Dartmouth professors and doctors at the Hitchcock Clinic. In the Manchester area, Nicholas Isaak and Alexander Majeski were often retained by business leaders and titans of industry.

⁴⁰ Communication from Linda Ray Wilson, October 18, 2012.



The work of New Hampshire architects was publicized in a monthly magazine, originally known as *New Hampshire Architect*, which was published by the New Hampshire A.I.A. Chapter beginning in 1949. With an initial mailing list of 500, more than 2,600 copies were distributed each month by 1959. Building firms identified with the construction industry, such as Duracrete Concrete, provided the funding for the magazine. *New Hampshire Architect* was published from 1949 to 1962 and was followed by *Granite State Architect* which ran from 1963 to 1972. (*Granite State Architect* was published bi-monthly by the New Hampshire Profiles Corporation of Portsmouth). The publications showcased the works of the state's architects, especially the twenty or so who were active members of the A.I.A. chapter. Architect editors included Alexander Majeski of Bedford (from 1953 to 1959+) and John A. Carter of Nashua (*Granite State Architect*). The journal included coverage of governmental, collegiate, commercial, religious and residential commissions. Editorial commentaries provide additional insight into the state of architecture in New Hampshire during this time period. In a 1952 issue, the magazine bemoaned the fact that the “best and biggest jobs are given to architects outside the state”.

Of the many New Hampshire architects practicing architecture during the Mid-20th Century period, several, such as Edgar and Margaret Hunter of Hanover and David Campbell of Hopkinton, stand out for their significant and progressive residential designs that were widely publicized in various journals and magazines. The following sections highlight the works of these practitioners.

Edgar Hayes Hunter (1914-1995) and Margaret King Hunter (1919-1997)

The husband and wife firm of Edgar H. Hunter and Margaret K. Hunter were the leading proponents of high-style modernist architecture in the Upper Connecticut Valley in the postwar period. They both studied at the Harvard Graduate School of Design, where they met. Edgar “Ted” Hunter was the son of a contractor and attended Hanover High School. He attended Dartmouth College and the Thayer School of Engineering, graduating in 1938. While at Dartmouth he was a member of the United States Olympic Ski Team and competed in the 1936 Olympics. A fellowship led him to study architecture for a year in Switzerland and when he returned he did graduate work in architecture at the Harvard School of Design. From 1941-2 he was an instructor of Naval Architecture at M.I.T. and for the following three years practiced Naval Architecture and acoustic mine gear design for the Navy in Boston and New York.⁴¹



Source: *Progressive Architecture*, June 1947

Margaret “Peg” King Hunter grew up in New Jersey and majored in botany at Wheaton College. She studied at the Smith College Graduate School of Architecture, planning to major in landscape design but switched to architecture after a semester. Her second year of graduate study was spent at the Harvard School of Design and she was a member of the first class of female architects at the Harvard School of Design in 1942. During the war years Peg Hunter worked for Czech architect Antonin Raymond and for industrial designer Raymond Loewy in New York as well as for Jackson and Moreland, Engineers, in Boston.⁴²

The Hunters married in 1943. After Edgar Hunter received an appointment as an instructor in architectural design at Dartmouth College, they relocated to Hanover. They established an architectural office in Hanover in 1945; they practiced and taught there for about twenty years before relocating to Raleigh, North Carolina in 1966. Roy Banwell joined the firm in 1957. He had connected to them through a University of Pennsylvania Graduate School professor. Banwell, who took over their practice when they moved to North Carolina, reports that the Hunters always had a small firm with two or three

⁴¹ *Progressive Architecture*, October 1947, p. 16.

⁴² *Ibid.*

Mid-20th Century Residential Architecture in NH: 1945-1975

draftsmen. The Hunters designed many of the finer Mid-Century Modernist homes built in Hanover and neighboring Norwich, Vermont during this period.

The Hunters met swift success upon setting up shop in Hanover and received considerable publicity. They received awards in national design competitions sponsored by *Progressive Architecture* magazine for the Dewey Showroom and Restaurant in Quechee, Vermont (1946) and for the Williams House in Hanover (1947, see below). Their designs were also featured in *Architectural Record* in 1950, 1953, and 1956; in *Progressive Architecture* in 1954 and in *Better Homes and Gardens* and *House Beautiful* as well as various compendiums of house designs (*100 Houses*, *the American House of Today*, *McCall's Book of Modern Houses*, *Treasury of Contemporary American Homes*, *Quality Budget Houses*, etc.).



Henry Williams House, Hanover
Source: *Progressive Architecture*, June 1948

The Henry Williams House in Hanover, which won them an Honorable Mention from *Progressive Architecture*, shows the influence of the International Style and the training they received from Walter Gropius at Harvard. The preference for simple geometry, smooth surfaces and modern materials and technology heavily influenced their work. The house has a steel frame with wood and glass curtain walls and brick walls at right angles for wind-bracing and stability.

In 1956 Peg Hunter was showcased in *Life* magazine in an article entitled “Housewife’s House: Designed by a woman, it puts kitchen in the center”. She was commissioned by the magazine to design, decorate and furnish a house to be built at General Electric Appliance Park in Louisville, Kentucky that “would as completely as possible fit the needs of the modern woman who is a housewife, mother and working woman.” Peg epitomized that definition as a house wife, partner in a successful architectural firm and the mother of a 3 ½ year old son.⁴³ In the article, Peg Hunter is pictured in the middle of her model GE kitchen equipped with motorized shades, so that any side may be screened. The special issue was

⁴³ *Dartmouth Alumni Magazine*, May 1957, p. 49.

Mid-20th Century Residential Architecture in NH: 1945-1975

devoted to “The American Woman: Her Achievements and Troubles” and Peg Hunter is described as “one of the country’s few successful women architects”.⁴⁴



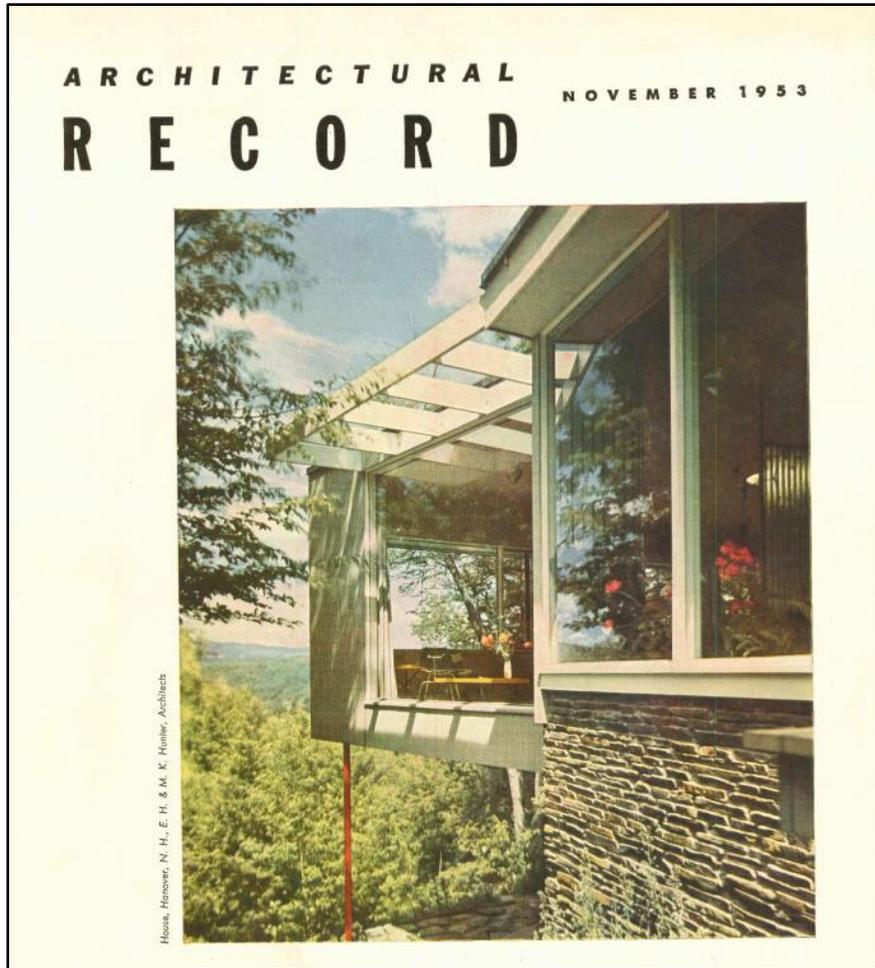
Life magazine, December 24, 1956

The Hunters believed that a house must be tied to its site and many of their homes are found on steep slopes, rocky ridges and other lots that would have been once considered unsuited for building. Typically, their designs feature a somewhat unremarkable, closed, single-story facing the road and a more expansive rear elevation with large glass areas oriented south for natural heating. The use of flat or low-pitched roofs was considered beneficial to hold snow and gain “free” insulation value in a long New England winter. In these practical and aesthetic effects of climate on design, the architects believed, was true regional expression.⁴⁵

The largest concentration of Hunter houses is found in Hanover on Hemlock Hill, including Hemlock Road, Ridge Road and Ledge Road – an area once nicknamed “Pill Hill” because the number of doctors who lived there. The Hunters built their own home at 15 Hemlock Road in 1949 as well as a home for Ted’s older brother, Ralph Hunter, next door the previous year.

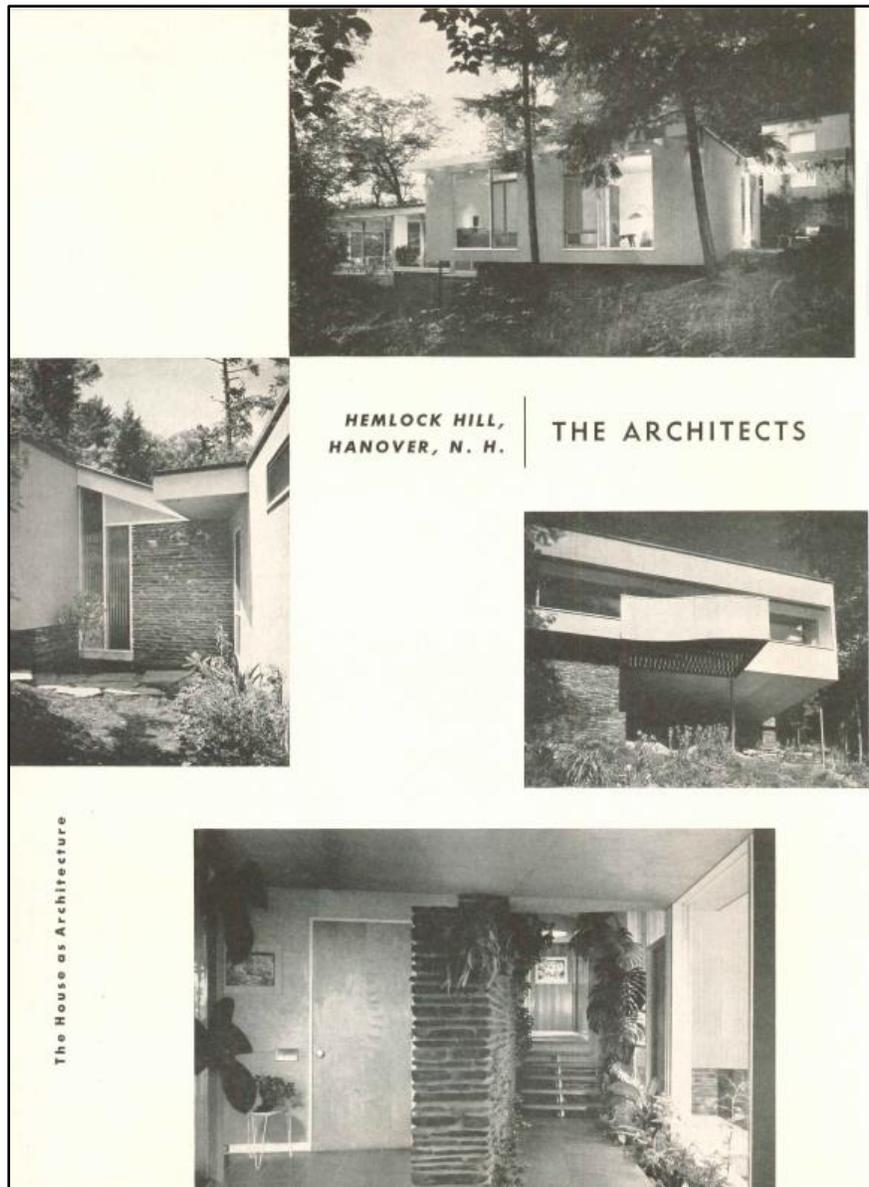
⁴⁴ “Housewife’s House”, *Life*, December 24, 1956.

⁴⁵ *Architectural Record*, November 1953, p. 157.



E.H. and M.K. Hunter House, 15 Hemlock Road, Hanover
Source: *Architectural Record*, November 1953

The November 1953 issue of *Architectural Record* showcased four unique and individual houses designed by the Hunters on Hemlock Hill in Hanover, including their own home. Each of the multi-level homes was built on the side of a steep hill on a lot of land with 2-5 acres of woods. Three of the houses had steel frames; the fourth was completely wood-framed due to the high cost of steel during the Korean War. The light steel framing cut costs by reducing the inefficiency of cutting and fitting wood members. Other materials used included concrete block, native stone, corrugated glass, and wood. Interior features included a see-through stone fireplace, open floor plans, dramatic staircases and inside planters.



Details from four Hunter-designed homes on Hemolock Hill, Hanover
Source: *Architectural Record*, November 1953, 154

In all, the Hunters designed over twenty houses in the Upper Valley. A number of the Hunters' clients were artists who came to the Upper Valley by way of Dartmouth College's artist-in-residence program. They included art collectors Keith and Edna Warner who built a house in 1951 (the house was featured in *Architectural Record* in 1950). Richard Wagner, a painter and head of the Dartmouth art department had a Hunter-designed house built in Hanover in 1957 and Ray Nash, an art professor specializing in Graphic Arts had his home designed in 1965. Maude French, Art Librarian at Baker Library had a Hunter House featured in *Better Homes & Gardens* in June 1951. Painter Kenneth Shopen and his wife,

musician Sylvia Shopen commissioned a house in nearby Norwich, Vermont from the Hunters in 1964. Other clients included doctors at the Hitchcock Clinic including Dr. Walter Lobitz, a dermatologist; Dr. John Murtagh and Dr. Wendell Triller. The Hunters also designed houses for Dartmouth professors including Henry Williams of the Drama department, James Cusick of the Economics Department, Roy Forster who taught Biology, mathematician John Kemeny, and Col. Desmond Canavans who was a professor of Naval Science and Assistant Dean of Engineering at the Thayer School of Engineering. The Hunters also designed a few houses elsewhere in the state including a house for Ralph Langdell in Manchester and others in Acworth, Lebanon, North Conway and Peterborough.

The Hunters were members of the New Hampshire A.I.A. and several of their house designs as well as non-residential work were published in *New Hampshire Architect*. Yet they clearly did not embrace the work that was being done by many of their fellow architects in the state. A letter penned by PegL Hunter to the Editor of *New Hampshire Architect*, Alexander Majeski, appearing in the March 1953 issue is a scathing review of their peers:

I have opened issue after issue of the *New Hampshire Architect* only to read tearful pleas for a return to "Traditional" architecture and a turn away from modern architecture...Can it possibly be true that New Hampshire is so backward that there is any question about the suitability of contemporary architecture for our times...The leveling to mediocrity discussed in the last issue of New Hampshire is represented by the so called "ranch house." In this building type there is little functionalism and slightly more traditionalism. It could be called the house type of the timid who want to advance but don't quite dare.

The couple's perception of the tension between tradition and modernism in New Hampshire continued to fester in the years that followed. Speaking on the Hunters' philosophy of residential construction in 1964, Peg Hunter stated, "We are trying to develop an indigenous American architecture. I love genuine old homes, but I think it's a travesty to copy them. We can and must satisfy the needs of today's families with today's architecture."⁴⁶

In the end, it was apparently their inability to get larger non-residential commissions that led the Hunters to leave the state. Their non-residential works in New Hampshire included a toll plaza on the F.E. Everett Turnpike at Merrimack (1956), the Lutheran Church and Parsonage in Hanover (1958), the Sawyer Art Center at Colby College in New London (1960), the Bradley/Gerry Building (aka "Shower Towers", 1961) at Dartmouth (demolished 2006) and the Dartmouth Co-op. In the words of fellow architect Roy Banwell who took over their practice, they left because they were "thwarted by New Hampshire building committee conservatives."⁴⁷ Many of the homes the Hunters designed in New Hampshire remain but most have seen additions and alterations.⁴⁸

⁴⁶ *Granite State Architect*, April 1964.

⁴⁷ Information from Roy Banwell, 2018.

⁴⁸ The North Carolina Modernist website has extensive information on the Hunters.

<http://www.ncmodernist.org/>

Lyssa Papazian has also recently prepared a National Register Nomination for the Norwich Mid-Century Modern Historic District, which includes information on the Hunters and other architects working in the Hanover, NH-Norwich, Vermont area during this period.

Mid-20th Century Residential Architecture in NH: 1945-1975



E.H. & M.K. Hunter House, 15 Hemlock Road, Hanover (1949)



Staples House, 14 Hemlock Road, Hanover (1950)



Wagner House, 76 East Wheelock Street, Hanover (1957)

Note: See Appendix (page A22+) for list of the Hunters' residential projects in New Hampshire.

David R. Campbell (1907-1963)

An accomplished architect and a leader in gaining recognition for the crafts, David Campbell was one of New Hampshire's most unique Mid-Century designers. Campbell served as director of the New Hampshire League of Arts and Crafts from 1939 to 1962, was a member of the Board of Trustees of Old Sturbridge Village and as Executive Vice President and then President of the American Craftsmen's Council from 1956 to 1963. A 2006 newspaper article described his somewhat harried day-to-day routine in the 1950s: "Because of his full-time job at the League, Campbell could not spend a lot of time at his building sites; he always had at least three or four houses in progress, said Gordon Keeler, who served as his chauffeur for a time in an attempt by the League to give Campbell more time to rest. During his visits, he was known to instruct builders using a sketch on a piece of wood, and he sometimes made changes on the spot".⁴⁹ He appears to have operated outside the world of the other established New Hampshire architects of the day; he is not listed in the Directories of the American Institute of Architects and his work never graced the pages of the statewide architectural publications, *New Hampshire Architect* and *Granite State Architect*. He maintained an architectural office in New York but does not appear to have had an office in New Hampshire nor did he advertise, instead acquiring commissions through word-of-mouth from clients with shared interests.



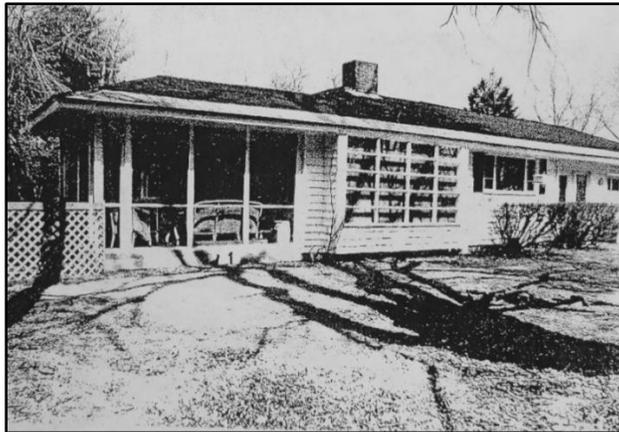
Campbell was born in Boston; his father (also David) was a native of Canada and an architect and builder. The younger David Campbell attended the Mechanic Arts High School in Boston and Northeastern University for one year before transferring to UNH where he received a B.S. in 1929. He began his studies at Harvard School of Architecture in 1931 and received a M. Arch in 1934. His time at Harvard was prior to the arrival of Bauhaus architects Walter Gropius who taught from 1937-1952 and Marcel Breuer who taught from 1937 to 1946 but their influence is apparent in his work. After graduating from Harvard in 1934 Campbell spent three years employed in several unidentified architectural offices in Boston, living in Dorchester. He also taught design and crafts at Beaver Country Day School in Brookline. In 1939 Campbell became the Director of the New Hampshire League of Arts and Crafts and moved to Hopkinton. During World War II Campbell was a lieutenant commander in the U.S. Navy, serving aboard a minesweeper.

⁴⁹ Elizabeth Walters, "A league of his own", *Concord Monitor*, September 14, 2006.

Mid-20th Century Residential Architecture in NH: 1945-1975

In 1992 David's widow, Flora K. Campbell, compiled a list with photographs (taken in 1992) of about fifty of her husband's architectural commissions, most of which were residences.⁵⁰ This list along with correspondence, drawings, and writings are now in the Archives of American Art, Smithsonian Institution, Washington D.C. The following discussion of Campbell's work draws heavily on that compendium.⁵¹

Campbell's first known architectural commissions date to the late 1940s after the war and can be generally described as a series of hip-roofed Ranch style dwellings of varying complexity. In 1946 he designed what was probably the first of many homes for craftspeople – the Edgar Keen House on Main Street in Warner. Keen was a well-respected wood carver and had served as the director of the NH League of Arts and Crafts prior to Campbell from 1936 to 1938.



McLaughlin House, 83 Mountain Road, Concord (1948)

Source: Flora K. Campbell, 1992

⁵⁰ Nonresidential commissions included an outdoor theater in Hopkinton. The Museum of Contemporary Crafts in New York City and buildings for the Sharon Art Center and Arts, buildings for the League of Arts and Crafts in Hanover and Concord and the Lambda Chi Alpha Fraternity at UNH.

⁵¹ Many thanks to Peter Michaud who went to Washington, D.C. to view the Campbell Archives and was kind enough to share his research. Richard Candee has also shared additional information on Campbell's work in New Hampshire.

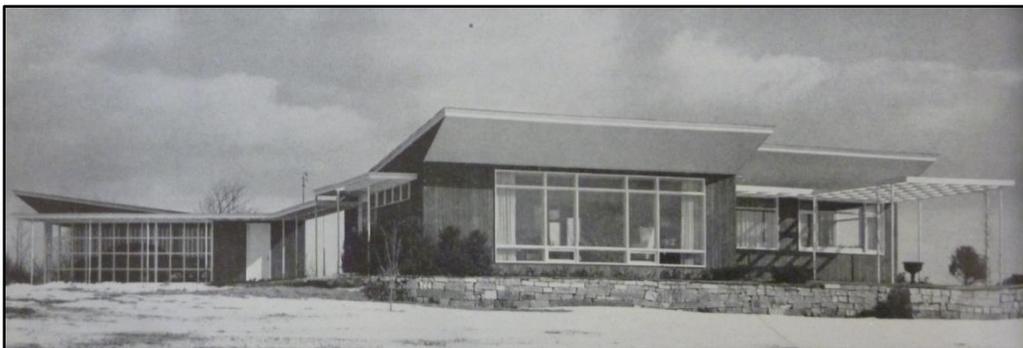


Troxell House, 88 Briar Hill Road, Hopkinton (1949)

Source: Assessors Records

During this period Campbell also designed several homes in New London. In 1946-8 he designed a house at Herrick's Point in New London for Edward J. Poor, head of Sylvania Electric (no longer extant). Existing photos suggest it was a fairly conventional Ranch but had expansive windows along the rear elevation facing Lake Sunapee and the clean lines that would characterize his later work. At about the same time, Campbell also built a summer cottage for himself nearby.

In the 1950s Campbell's architectural designs assumed a new modernist aesthetic. Low-pitched gable roofs with overhanging eaves took the place of the earlier hip-roofed residences. It was also at this time that he introduced the angled overhang that was to become a signature of his work. It appeared to be a variation on the butterfly roof first utilized by Le Corbusier about 1930 and redefined by Marcel Breuer in his designs for the Geller House on Long Island, New York (1945) and the Robinson House in Williamstown, Massachusetts (1946). In addition to its visual appeal, the use of the cantilevered overhang which extended about five feet brought sunlight into a house in the winter and provided shade in the summer. Nearly all of Campbell's house designs during this period featured walls of windows and expansive windows, patios and other details intended to bring together architecture and landscape. The simple exteriors were sheathed in vertical siding with large brick or fieldstone chimneys, porches with white iron support posts underneath and egg crating (open grid) details.



Warren Hallamore House, 488 Foster Hill Road, Henniker (1949)

Source: *New Hampshire Profiles*, March 1953

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During this period as part of his work with the NH League of Arts and Crafts Campbell was also actively seeking out some of the country's most accomplished designer-craftsmen and encouraging them to come to New Hampshire to join a growing group of dedicated craftsmen living in the natural beauty of New Hampshire. He sought to create a revival of the vital collaboration between the crafts and the building arts. He designed homes for craftsmen friends and also encouraged the owners of all of his homes to furnish them with works by local studio craftsmen.

A number of the houses he designed were for potters. He designed a house and ceramic studio for Viveka and Otto Heino, well known potters, in Hopkinton in 1948. Another house in Hopkinton for potter Dorothy Tobey and her husband Charles dates to 1950. About the same time, Campbell enticed potter John Butler to come to New Hampshire from Philadelphia and designed a house and a large production studio for him in Ossipee. Ceramicists Edwin and Mary Scheier came to New Hampshire at Campbell's invitation to teach at UNH. He designed their house in Durham in 1951; the Scheiers worked at UNH until 1960. Like many of the other craftsmen houses, it included studio space and the ubiquitous butterfly roof lines. Gerry Williams, a master potter and the editor of *Ceramic Magazine* lived in a Campbell-designed house in Dunbarton built in 1956. Other craftsmen who hired Campbell to design their houses included Reginald Brewer, a jewelry maker, who built a home in Meredith in 1952. Gordon Keeler, a wood and leather craftsman, lived in a Campbell house in Hanover constructed in 1954. Polly Parker hired Campbell to design a house in New London; she was an art teacher at Colby College.



Scheier House, 63 Mill Road, Durham
Photo by Douglas Armsden
Courtesy of Portsmouth Athenaeum

Mid-20th Century Residential Architecture in NH: 1945-1975

Campbell himself lived in Hopkinton, in a house of his own design built in 1953. He lived in the house until his death in 1963.



Campbell House, 661 Jewett Road, Hopkinton

Source: Realtor photos

Not all of Campbell's commissions were from craftsmen. He also designed residences for educators including the vice president of New England College, the president of Keene Teachers' College, Business owners, the editor of the *Concord Monitor*, executives from S & H Green Stamps and Sylvania among others. Campbell-designed homes are located throughout New Hampshire including Bedford, the Hampton and Concord areas, Nashua, and Hanover as well as in Norwich, Vermont, Cape Cod, Massachusetts and Wells, Maine.

Note: See Appendix (page A8+) for list of Campbell's projects in New Hampshire.

Royal Barry Wills (1895-1962) and Associates

There were also naturally architects from nearby Massachusetts designing homes in New Hampshire during the mid-century period. Among the most important was Royal Barry Wills (1895-1962), a preeminent Boston architect and master of the Cape Cod house in its mid-20th century incarnation. Royal Barry Wills' career began well before World War II but demonstrates the continued interest nationwide in Colonial styles into, and beyond, the Mid-Century period. Wills graduated from M.I.T. and opened an architectural office in Boston in 1925 which he maintained until his death in 1962. The firm continued as Royal Barry Wills and Associates after 1962, designing houses and other structures that embraced the traditional principles favored by Wills.

Between 1935 and 1942 Royal Barry Wills won awards in more than two dozen design competitions including those sponsored by *Pencil Points*, *House Beautiful*, *Better Homes and Gardens* and *Ladies' Home Journal*. In 1940-1 Royal Barry Wills wrote three books on architecture (*Houses for Good Living*, *Better Houses for Budgeteers* and *This Business of Architecture*) that were widely read and publicized in both the popular and professional architectural press. By 1946 over a half million copies of his books had been sold and *Life Magazine* declared him the nation's most popular architectural author. Royal Barry Wills went on to win a number of national contests and was also featured in the *Saturday Evening Post*. He received a fellowship from the American Institute of Architects in 1954. Historian Richard Guy Wilson has described Wills as the most popular architect among the American middle class after World War II.⁵²



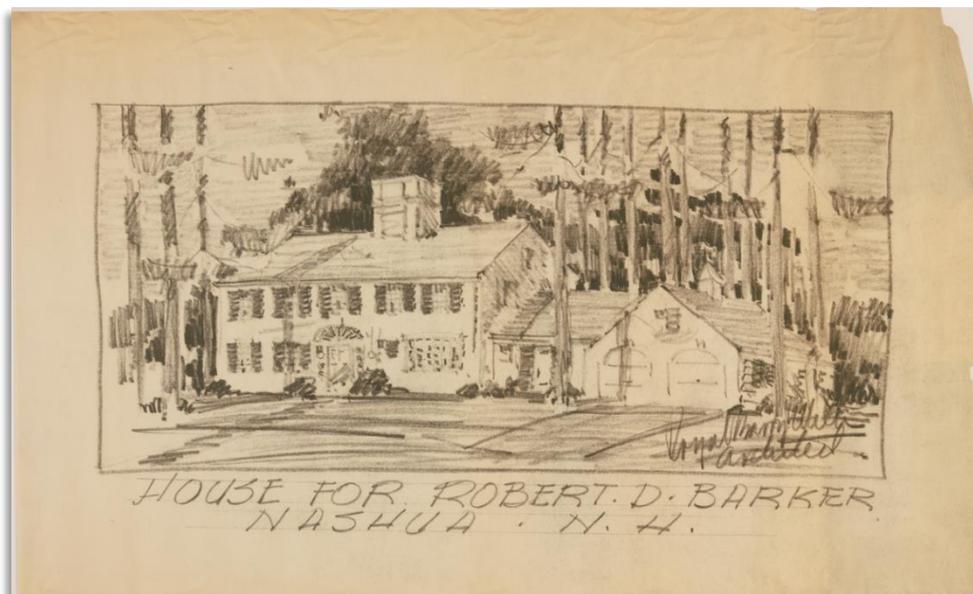
Drawing for House for Mr. & Mrs. George E. Jenkins, Bedford by Royal Barry Wills, 1956
Source: Royal Barry Wills Associates Archive, Historic New England

⁵² Richard Guy Wilson, *The Colonial Revival House*. New York: HN Abrams, 2004.

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During his lifetime, Wills' architectural office was of modest size, with just four or five members. Among the early associates were his son Richard Wills (1926-2014), Merton S. Barrows (1908-2006) and Robert E. Minot (1907-1996). Richard Wills received a B.A. from Tufts University and his architectural education from the Boston Architectural Center. He joined his father's firm in 1952 and became an associate in 1958. In 1962 he took over the firm after his father's death and continued working until his own passing in 2014.

In 2013 Richard Wills donated the majority of the company archives to Historic New England. In November 2019 many materials in the Royal Barry Wills Associates Archive became accessible online including drawings and a finding guide that lists Project Files. There are over 100 projects in New Hampshire from the late 1930s to 1980s listed and drawings for more than fifty of these including elevations, plans, details and renderings, depending on the project.⁵³ There are examples of Cape Cod style homes that were the firm's trademark as well as traditional two-story, central hall houses and two-story, garrison houses, all of which display a sense of historical authenticity combined with a bit of modernity.



Sketch for Robert Barker House, Nashua by Royal Barry Wills (1946)
Source: Royal Barry Wills Associates Archive, Historic New England

Like other prominent mid-20th century architects, the Wills firm had a wide range of clients including important business figures and politicians. In particular, the Royal Barry Wills firm received multiple residential commissions in the Nashua area and Seacoast from members of the Barker family. Patriarch Walter L. Barker (1891-1967) was the chairman of the Improved Machinery Corporation (IMPCO) in Nashua and was active in a variety of organizations including the Nashua Country Club. Company

⁵³ See Appendix for a list of NH projects in the Historic New England archives.

<https://www.historicnewengland.org/explore/library-archives/royal-barry-wills/>

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records show that in the late 1930s Royal Barry Wills initially worked on alterations to a home owned by Walter Barker in Nashua. A few years later he designed a distinctive 2 ½-story Garrison Colonial for Walter Barker at 30 Fairmount Street in Nashua and over the years prepared additional drawings for various alterations and other family members. In 1944-5, Wills designed a sprawling Cape style summer cottage for the Walter Barker family at 11 Ocean Boulevard in North Hampton. The Robert Barker House at 23 Elliott Street in Nashua was built in 1946. The firm later built a house in a more modern mode for Walter Barker's son, Allan, at 15 Bartlett Avenue in Nashua in 1957.

The modernistic house that was designed for Walter's daughter, Elizabeth and her husband, Gilbert and Elizabeth (Barker) Bucknam in 1954 is one of the more unusual firm designs. The single-story dwelling is sheathed in board and batten siding and has a slightly-pitched roof. Two wings extend from a central core. Although the initial rendering states the location to be Nashua, the other plans and elevations indicate Windham.



Sketch for Gilbert Bucknam House (1954)

Source: Royal Barry Wills Associates Archive, Historic New England

A few years later, the firm designed alterations to a Colonial Revival house on Concord Street in Nashua for the couple. Like other members of the Barker family, Gilbert Bucknam was an executive at IMPCO. The Wills firm also did design work for other company executives including John Rich who was at one time president of the company.⁵⁴

⁵⁴ Wills' relationship with the Barker family also brought in other non-residential work such as the design for alterations at IMPCO in 1952 and alterations at Nashua Country Club in 1961.

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Other clients of the firm included prominent politicians. Royal Barry Wills is believed to have designed a Cape-style dwelling house for Governor Charles Dale in North Hampton in 1941 although there are no drawings for the house in the Historic New England archives.



Governor Charles Dale House, 182 Post Road, North Hampton (1941)
Royal Barry Wills, architect
Photo by author

After Royal Barry Wills' death in 1962, the firm designed another house for a New Hampshire governor – in this case for John W. King in Goffstown (1965). Additional (non-residential) commissions for Royal Barry Wills Associates during Governor King's tenure included the design of a Rest Area in Nashua (designed by Robert E. Minot in 1966) and the New Hampshire State Supreme Court Building in Concord (Robert E. Minot, 1969).

Note: See Appendix (page A48+) for more list of Wills residential projects in New Hampshire

VI. Popular Architectural Styles and Forms of the Postwar Period

As we have seen, there are many facets that contribute to post World War II residential design. Houses of this period reflect a variety of characteristics including construction innovation, standardized design and design preferences ranging from traditional to modernist. The built environment of this period was shaped by local builders, by native born New Hampshire architects and by out-of-state architects and clients familiar with modern design.

In 2012 survey work in the Mid-Atlantic and Mid-West states for the National Cooperative Highway Research Program (NCHRP) led to the publication of Report 723: *A Model for Identifying and Evaluating the Historic Significance of Post-World War II Housing* prepared by Mead & Hunt, Inc. and the Louis Berger Group, Inc. The report describes popular architectural forms and styles of the period in detail such as the Minimal Traditional, Ranch, and Colonial Revival. With a few edits and additions to accommodate regional or climatic differences, the nomenclature from the report have proven beneficial in providing a consistent terminology for use nationwide and have become an oft-quoted standard in survey reports across the country. The following is based on the architectural forms and styles framework contained in the 2012 report. Several variations have been omitted as they are not really applicable to New Hampshire: the Storybook, Spanish Colonial Revival and Asiatic Styles. Entries for A-frame and Chalet forms have been added to reflect what was being built in New Hampshire during the postwar period including a growing number of vacation homes.



Interior of Barrett House, 1 Mitchell Lane, Hanover
Source: Frank J. Barrett, Jr.

Minimal Traditional

The Minimal Traditional house type originated after the Great Depression but continued in popularity during the post-World War II period because it was economical, could be constructed quickly and met Federal Housing Administration (FHA) mortgage guidelines. Found all over New Hampshire, the primary character-defining feature of the Minimal Traditional form is its simplicity. The small scale, single-story or 1 ½-story structures generally display little or no decoration and usually have simple gable roofs with little or no overhang and minimal rake overhang and chimneys that are not prominent. Most often these houses have a rectangular plan and contain 800 to 1,000 square feet. Foundations are concrete and originally wood shingle siding would have been the norm. Double-hung windows often have horizontal 2/2 rectangular panes and three-part picture windows are common.



751 Old Concord Road, Henniker



52 Watson Street, Nashua

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59 Leavitt Road, Hampton



67 Arah Street, Manchester

Cape Cod

Rooted in historic New England architecture, the Cape Cod form has been the affordable house type in New England for centuries but found new popularity in the mid 20th century. It was one of the first house types that the FHA approved for mortgages. The pitch of the gable roof is generally greater than on the Minimal Traditional and some may include dormers and a center chimney. A center entrance is typical. The quality of components and finishes varied. Deluxe versions may be embellished with historic-based details such as sidelights, fans, etc.



Postwar Capes on Belknap Street, Dover constructed by Nazaree Gendron of Sanford, Maine
Source: Peter Michaud

To keep costs down Capes were built on concrete slabs and often attics were left unfinished and without floors – “an expansion attic” that could be made habitable as young families grew.

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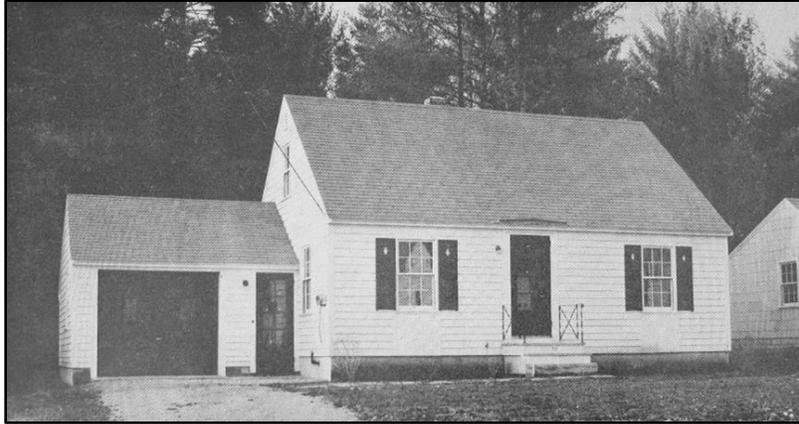
See our 3-Bedroom Cottage
 in next Thursday's edition

Source: *Portsmouth Herald*, April 21, 1966



Fairfield Drive, Hampton (Lucien Gosselin, architect) (1949-)
 Source: Assessors Records

Mid-20th Century Residential Architecture in NH: 1945-1975



Rochester Cape built after the war
Source: *Shoreliner*, April 1951



10 Birchwood Drive, Nashua
Source: Photo by author

Transitional Ranch Form

Like the Minimal Traditional, the Transitional Ranch exhibits a compact floorplan but its one-story horizontal massing, shallow roof pitch and overhanging eaves reflect the Ranch influence. Like the Minimal Traditional, its popularity was based on economy and the fact that it was favored by the FHA guidelines. Examples may have a gable or hip roof. Architectural detailing is virtually non-existent.



2 Harold Avenue, Pembroke



Kent Avenue, Dover



2 Thomas Street, Rochester

Ranch Form

Developed originally in California, the Ranch style spread across the country in the 1950s and became the most popular style for the rising middle class in the postwar period. It is found throughout New Hampshire. The small one-story house popular after the war (Minimal Traditional and Transitional Ranch) evolved in the 1950s into a more elaborate, individualized full-blown Ranch-style dwelling. All Ranches display certain commonalities: a low-pitched roof, prominent chimney and a long, rambling, façade with a horizontal emphasis. Cladding can be wood shingles, asbestos shingles, or brick or stone veneer. Entrances may be emphasized by overhangs, planters, wrought iron supports, etc. The varied window forms often include a picture window adjacent to the entrance. There may be corner windows or bands of windows. Double-hung windows often originally had horizontal rectangular panes in a 2/2 arrangement although these have typically been replaced.

Ranch houses may or may not include an attached garage or carport with a breezeway connecting to the house. Often there is a patio or terrace, either front, rear or side. The interior typically displays an open floor plan with a blending of functions and spaces that flow into one another in a casual way that suited changing postwar lifestyles.



Leonel Moore House (contractor/builder), 97 Rochester Hill Road, Rochester
Source: Assessors Records



28 Madeline Road, Manchester
Source: Assessors Records

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While clean modern lines were generally favored for the Ranch, in some cases the Ranch was clothed with the trappings of traditional styles such as Colonial double-hung windows with shutters. In other cases there were Spanish Colonial Ranches with stuccoed exteriors and tile roofs, such as this home (below) of a prominent Manchester builder/contractor.



Davison Residence, 2600 Elm Street, Manchester
Source: Photo by author

A short distance away, also in Manchester's north end, this Ranch of roughly the same period displays a more Contemporary aesthetic with overhanging and cantilevered roof lines.



571 Ray Street, Manchester
Source: Photo by author

Mid-20th Century Residential Architecture in NH: 1945-1975

This Nashua Ranch (below) displays many typical characteristics including a low-pitched hip roof with overhanging eaves and prominent chimney, asymmetrical fenestration including picture windows and horizontal bedroom windows located on the upper part of the wall, and a breezeway and attached garage.



4 Birchwood Drive, Nashua
Source: Photo by author

Wrought iron accents are another common feature. Rochester is one community that saw a proliferation of Ranches in the 1950s and 1960s including the Sunset Drive section of Rochester Hill.



16 LeTourneau Street, Rochester

Source: Nicolas Avery, A Comparative Analysis of Mid-Century Ranch-style Housing, Rochester, 2014

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In Manchester, a number of distinctive and elegant Ranches are found in the north part of the City, in the neighborhood east of Union Street.



33 Imelda Street, Manchester
Source: Photo by author



477 North Bay Street, Manchester
Source: Photo by author



9 N. Acres Road, Manchester
Source: Photo by author

Raised Ranch Form

A Raised Ranch is a variation on the Ranch house with an elevated or partially-elevated basement level. The basement access, typically allowing for an integrated garage could be on the front or side.



2605 Elm Street, Manchester (Andrew Isaak, Architect)
Source: Photo by author

Split Level

First appearing in New Hampshire in the 1950s, split level houses never achieved the popularity of the Cape or Ranch here perhaps because this was not typically an entry-level house in the housing market. The multi-level homes have floors that are staggered or separated by less than a full flight of stairs. The main entry is typically at mid-level and is typically sheltered by the roof overhang or entry porch. The front door is often emphasized by sidelights or paired doors or some other means. They can be capped by gable or hip roofs. Inside, the Split Level allowed for the separation of the formal, informal and sleeping areas of the house with the family room and garage at the lowest level; kitchen, dining and living areas on the mid-level and bedrooms and baths on the upper level.



6 Ruel Street, Somersworth
Source: Photo by author



17 Sunset Drive, Dover
Source: Photo by author

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Advertisement for Stark Estates Split Level, Nashua

Source: *Nashua Telegraph*, 1960



29 Burgess St., Nashua (Stark Estates), today – note original metal siding

Source: Photo by author

Split Foyer

The Split Foyer or Split Entrance House features a front entrance that is between floors and faces a short staircase that leads up to a main living entrance with another going down to a finished lower level. In contrast to the Split Level, the Split Foyer often has a single roofline. Like the Raised Ranch, the Split Levels and Split Foyers were often built on uneven and sloping building sites.



Durham

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Next Thursday's edition will feature a two-bedroom Cape with expansion attic.

Portsmouth Herald, August 4, 1966

Georgian Revival Style

The Georgian Revival is a style that remained popular in the Mid Century among a small number of clients who could afford it. The two-story, symmetrical dwelling is typically capped by a hip roof above a five-bay façade. Historically inspired features include double-hung, multi-light windows with shutters and keystones, ornate entries, pediments, etc.



Benjamin Mates House, 642 Ray Street, Manchester
Source: Photo by author



Roy Sanders House, 11 Bartlett Avenue, Nashua
Tracy & Hildreth, Architects
Source: Photo by author

Garrisons and Two-Story Colonials

The Two-Story Colonial is larger, more elaborate and more costly than the simple Cape. It shares a similar plan but is twice the size. Porches, sunrooms, and garages are common appendages. The Garrison Colonial displays a second floor overhang. Like the Cape, the Two-Story Colonials were in existence in the early 20th century but experienced a resurgence of popularity postwar.



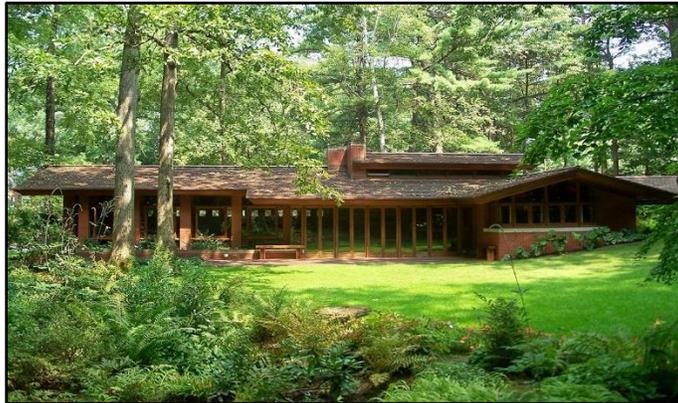
Maurice & Dorothy Katz House, 276 N. Adams Street, Manchester
Source: Photo by author



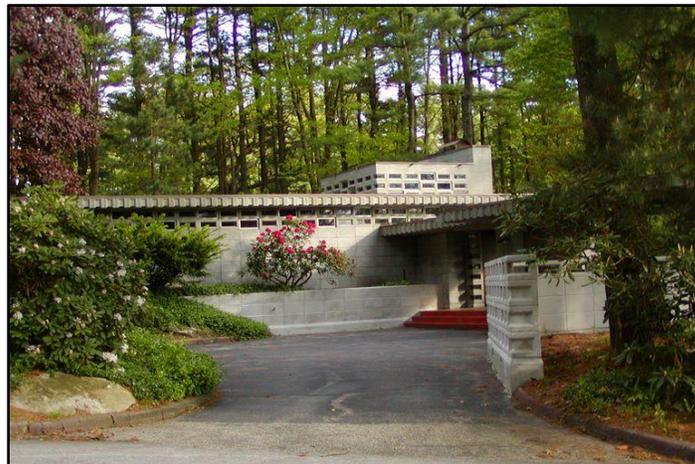
42 Mill Pond Road, Durham
Source: Assessors Records

Contemporary

The label “Contemporary” was used by Mead & Hunt in their 2012 Report to describe a wide range of houses of the period that broke with the past and reflected current design trends. They state: “Contemporary style houses were often custom-built and designed by architects. The features of the style have its origins in the residential work of Frank Lloyd Wright, particularly his pioneering Usonian houses of the 1930s through early 1950s, and were also influenced by Bauhaus architects of the Modern movement”.⁵⁵ New Hampshire, in fact, has two Wright-designed Usonian houses, both of which are located in Manchester.



Zimmerman House, 150 Ash Street, Manchester



Kalil House, 117 Heather Street, Manchester

⁵⁵ Mead & Hunt 2012: 112.

Mid-20th Century Residential Architecture in NH: 1945-1975

The Contemporary style house typically has a flat or gabled roof with wide overhanging eaves. The massing of the dwelling is geometric and the front façade has minimal details with entries de-emphasized. Sometimes there is an understated “street face” to the dwelling which contrasts with large windows, curtain walls, etc. on the rear that face the more private backyard. Materials employed include exposed post-and-beam construction, new building materials such as synthetic brick, concrete block, etc. and natural building materials such as wood and stone. Integrated carports or garages are standard.



160 Ledgewood Road, Manchester (Nicholas Isaak, Architect)
Source: Photo by author



119 N. Acres Road, Manchester
Source: Photo by author

Mid-20th Century Residential Architecture in NH: 1945-1975



150 Crestview Road, Manchester (A.J. Majeski, Architect)



20 Kalmia Way, Bedford (David Campbell, Architect)



14 Hemlock Road, Hanover (E.H. & M.K. Hunter, Architects)

Mid-20th Century Residential Architecture in NH: 1945-1975

In addition to architect-designed Contemporary style dwellings, there are also Minimal Contemporary houses found throughout the state constructed by builders.



11 River Road, North Hampton



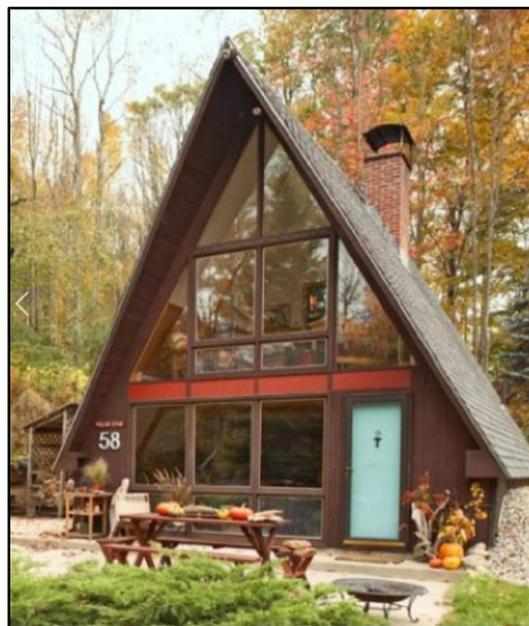
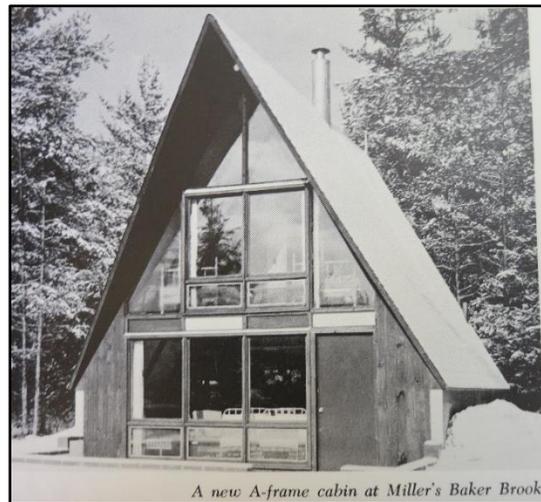
Sunnydale Drive, Merrimack



11 Sunset Drive, Rochester

A-Frame

A simple-to-construct frame structure that became known as an iconic vacation home, the A-frame usually has basic steeply pitched gable front although there are lesser numbers of other variants such as gambrel or truncated tops. The roof/sides typically descend all the way down or nearly all the way to the ground. This house type found great popularity in the late 1950s and 1960s for recreational properties such as near lakes or ski slopes. They were easy to build and many were constructed from kits.



Bethlehem A-Frame

Source: (top) *New Hampshire Profiles*, (bottom) *Ready Made Magazine*, 2009

Chalets

Like the A-Frame, the Chalet is a postwar architectural style which was popular in New Hampshire but is not typically found on lists of common architectural styles. Chalets were reportedly first introduced to New Hampshire in 1946 when Baron Hubert von Pantz of Austria established an Alpine village, Mittersill, near Cannon Mountain.⁵⁶ Some 75 chalets were constructed there and in the years that followed, the Chalet style found great popularity in proximity to New Hampshire ski areas. The style reflects the growing popularity of the winter sport and the increasing leisure time of the American family.

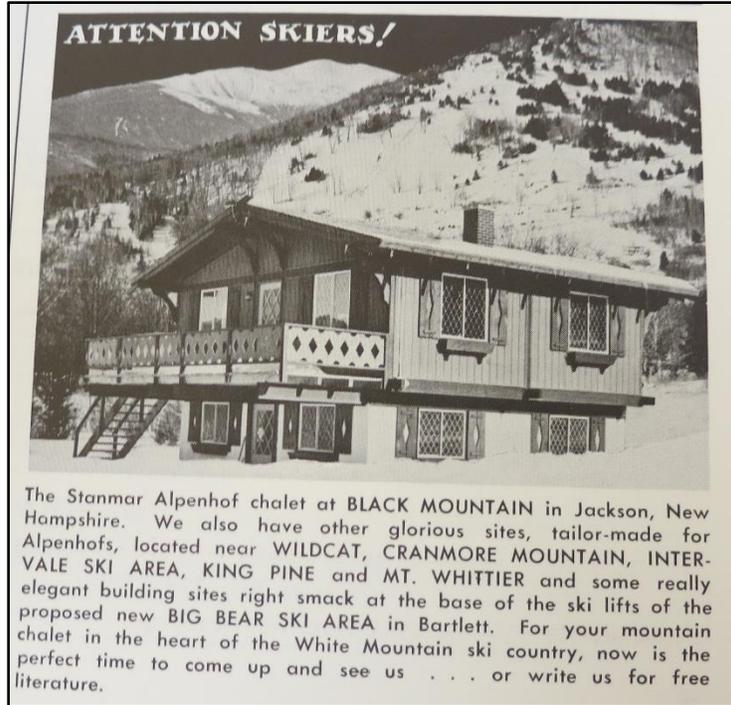
The Chalet is loosely based on European prototypes and typically displays a low-pitched, two-story gablefront with projecting eaves, beams and scrollwork. There is usually front balcony or porch enclosed by jigsaw balusters and windows have wooden shutters with incised designs. The wood-frame structures may be sheathed in board-and-batten siding or stucco.



Intervale Chalet

In the postwar period, affordable vacation homes were marketed by a number of construction companies to fill the growing second home market. These included Stanmar Homes, who specialized in packaged housing kits with prefabricated units, modules, and shells. Their Alpenhof model reflected the continued popularity of the Swiss Chalet in the 1960s.

⁵⁶ Tap Goodenough, "Chalets and Condominiums", *New Hampshire Profiles*, May 1970, p. 30.



Stanmar Alpenhof Chalet

Source: (top) *New Hampshire Profiles*, May 1964; (bottom) Photo by author

Geodesic

Patented by Buckminster Fuller in 1954, the geodesic dome is a lightweight, thin-shell, spherical structure composed of triangular panels made of metal, plastic or fiberglass. The domes require no internal supports, are energy efficient and are able to withstand very heavy loads for their size. After a geodesic dome was selected for the United States Pavilion at Expo 1967 in Montreal, the simple structures found limited popularity as residences during the 1960s and 1970s. Only a few were constructed in New Hampshire during the study period and most were likely constructed using prefabricated kits. In 1975 Jeffrey Orchard of Derry received a building permit to construct a geodesic dome 40 feet in diameter and 20 feet high.⁵⁷



32 Pond Road, Derry
Source: Assessors Records

Other geodesics are known to exist in Amherst, Henniker, New Ipswich and Orange. Geodesic dome houses continued to be constructed in small numbers in the 1980s and 1990s.



239 Ashby Road, New Ipswich
Source: Zillow.com

⁵⁷ *Nashua Telegraph*, August 19, 1974, p. 12.

Free Form/Earth Sheltered

In the 1970s earth-sheltered homes enjoyed some popularity, thanks in part to the energy crisis after the 1973 oil embargo. Builders explored various forms of earth-sheltered building ranging from earth covered shelters with living roofs to underground excavated spaces to buildings with earth piled in berms against their walls. From an energy conservation standpoint they houses were found to be both easier to heat and cool. The house below was designed for Murray and Dorothy Straus in Durham and includes a natatorium. Dr. Murray Straus (1926-2016) was a professor of Sociology at UNH.



Straus House, 33 Mill Pond Road, Durham
Source: Assessors Records (top) and Michael Behrendt (bottom)

Postwar Subdivisions and Developments

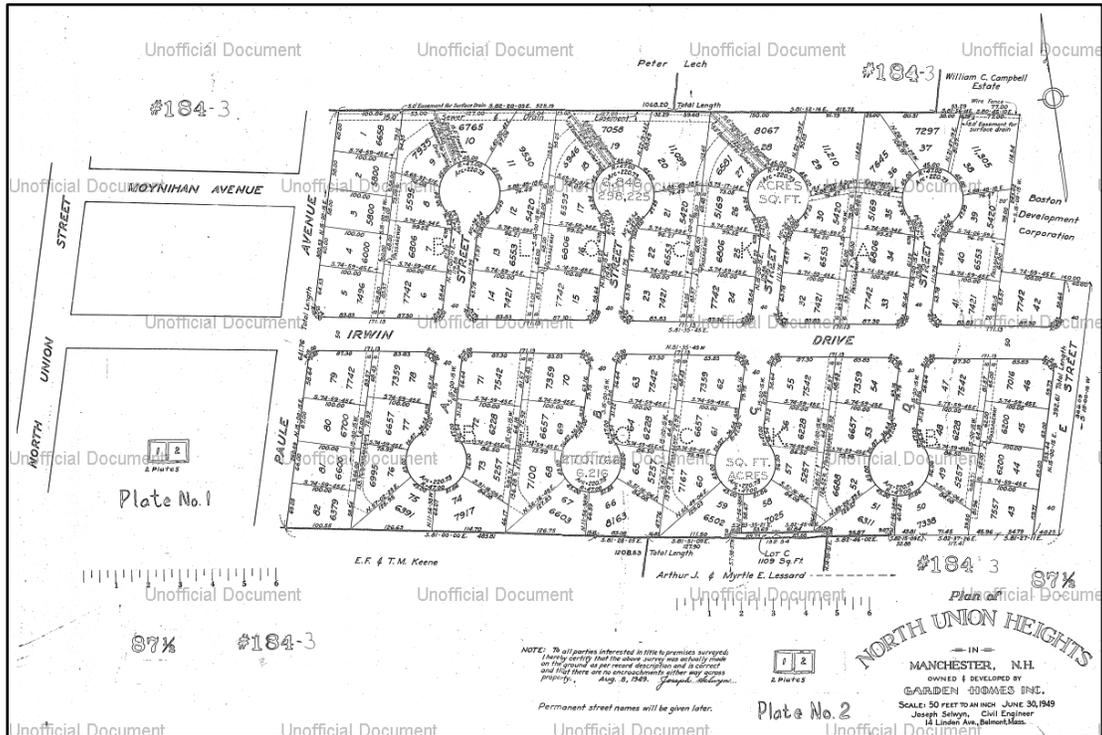
In 1947 William Levitt of Levitt & Sons began building mass-produced, affordable housing in New York for veterans returning from World War II. Eventually growing to 6,000 Cape and Ranch residences, Levittown, as it later became known, is considered the earliest large-scale suburban housing development in the country. Although New Hampshire did not see the large uniform suburban developments typified by the Levittown model, many parts of the state did see smaller scale subdivision construction by “merchant builders” or builders who acquired large tracts of land and completed the entire development and construction process, selling the finished houses as part of a new community. Other smaller developers were known as “operative builders”. They also controlled the entire process from land acquisition through construction but phased construction as money became available and often didn’t offer community facilities.⁵⁸ Immediately after the war, the Federal Housing Administration (FHA) mandated minimal lot size, setback distance, separation from adjacent structure and the width of the homes themselves. These rules are reflected in many New Hampshire subdivisions of the period.



New Hampshire’s postwar subdivision housing developments are differentiated by design, size, intent and construction process. An early example of a development shaped by a single developer with Colonial-style, two-family dwellings is North Union Heights, built in Manchester in 1949-1951 in response to the expansion of activities at Grenier Air Force Base. The FHA-approved, 164-unit development was owned and developed by Garden Homes, Inc. of Boston and consisted of 82 two-story Colonial-style duplexes. The subdivision was laid out with eight cul-de-sacs extending off Irwin Drive – four to the north and four to south. The two-bedroom homes were rented for \$75 and \$70 a month, the more expensive units included a basement garage. Unlike most FHA houses, these were two-stories. Soon after construction the development was plagued by vacancies and within a few years the federal government began foreclosure proceedings against Garden Homes. Today, the two-family homes are all privately owned.

⁵⁸ Mead & Hunt 2012: 67.

Mid-20th Century Residential Architecture in NH: 1945-1975



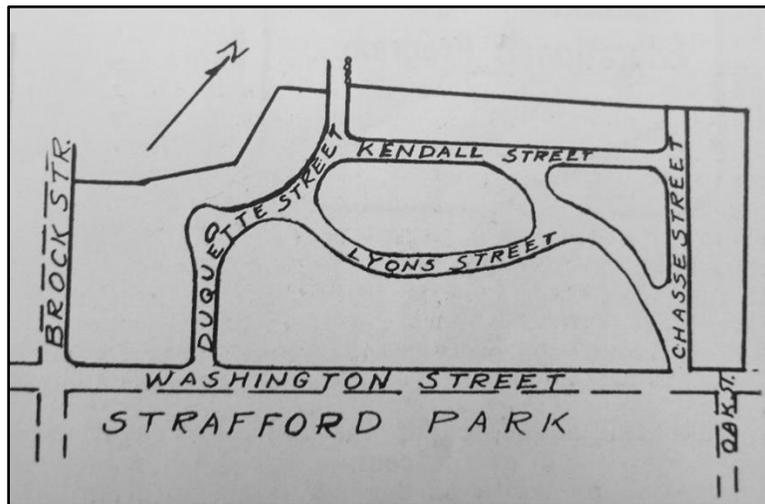
Plan for North Union Heights, Manchester (1949)
 Source: Hillsborough County Registry of Deeds, Plan 184



164 Irwin Drive, Manchester
 Source: Assessors Records

Mid-20th Century Residential Architecture in NH: 1945-1975

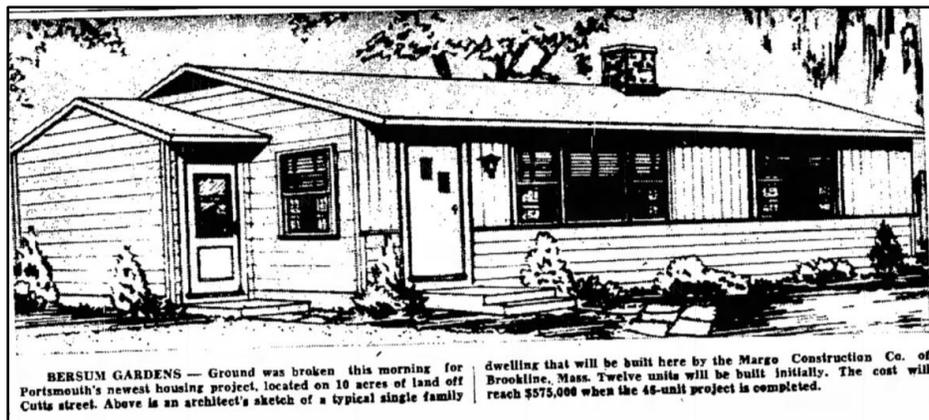
Located off Washington Street in Rochester, Strafford Park was constructed in 1951 by Albert J. Parent and consisted of 57 Cape Cod-style dwellings. According to an advertisement in *Shoreliner* Magazine, the houses included a single car garage, full basement, oak floors, forced hot-air heating with copper plumbing, a Youngstown kitchen, two bedrooms, a full bath and an expansion attic. The curvilinear street layout was typical of the period.



Strafford Park, Rochester
Source: *Shoreliner*, April 1951

Mid-20th Century Residential Architecture in NH: 1945-1975

Very few postwar neighborhoods in New Hampshire have been evaluated to date for National Register eligibility. One that has is Bersum Gardens in Portsmouth.⁵⁹ The 46-lot development was constructed on land purchased by a single developer, Harry Winebaum, a prominent local businessman who named it after his two sons – Bernard and Sumner. The 44 houses on the loop of Leslie Drive were all built by a single construction company, Margo Construction of Brookline, Massachusetts, between 1956 and 1957. The only type of dwelling built in the development was the Transitional Ranch, a modest home with 5 ½ rooms; many had a carport. Although there have been changes to sheathing, window material and other aspects of the individual homes, the neighborhood retains integrity as a cohesive and still recognizable district and was determined eligible for the National Register in 2013.



Source: *Portsmouth Herald*, June 28, 1955



House on Leslie Drive today

Source: Bingmaps

⁵⁹ Kate Willis and Amanda Taylor, Area Form for Bersum Gardens Historic District, 2012. On file at the NH Division of Historical Resources.

In very few cases were the dwellings within a subdivision designed by an architect. One architect who was involved in a number of developments was Lucien O. Geoffrion (1908-2003), one of the Seacoast's leading architects and also Portsmouth Assessor for many years. Before World War II Geoffrion served as the architect for Maplewood Acres in Portsmouth, developed by the Hampton Development Corporations. Eleven Garrison Colonials were built or finished by June 1941 with five more finished by 1947. In 1949 he designed the Cape Cod houses at Fairfield Park in Hampton. The 29 Ranch houses he designed for Fairfield Park, off Elwyn Road (including Edgewood and part of Grant Roads) show his continued stylistic versatility.

Fairfield Park, Portsmouth, designed by Lucien Geoffrion

Source: *Portsmouth Herald*, June 12, 1959

There are countless subdivisions and planned developments within the State with curvilinear streets and cul-de-sacs lined by a mix of Cape Cod, Ranch, Split Level and Contemporary dwellings. Garages and carports became integral parts of dwellings during the postwar period. Many subdivisions included covenants and restrictions to insure that architectural design, use, and density, was in keeping with the neighborhood. Perusal of local newspapers of the period are useful research tools in researching subdivisions and planned developments and often include articles about new developments including images, advertisements and information about developers, architects and builders.

Mid-20th Century Residential Architecture in NH: 1945-1975

By 1970 planners were applying new tools to the conventional residential subdivision. Open space planning and clustering changed the way developments were laid out in rural and suburban areas and helped protect environmentally sensitive areas and open space. Among the early noteworthy developments was Jasper Valley in Amherst, developed in 1970 by Peter Flood, a director of the NH Land Foundation. The houses in the development displayed a mix of styles including Capes and English Revivals, including designs by Royal Barry Wills Associates, the successor firm of the well-known architect who died in 1962.



Source: *Eastman Living*, 40th Anniversary, Spring 2011

In the Dartmouth-Lake Sunapee Region, Eastman, a four-season recreational community was created in Grantham in the early 1970s. The project was developed by Controlled Environment Corporation which was created and owned by Dartmouth College, the Society for the Protection of New Hampshire Forests, the Manchester Bank and United Life and Accident Insurance Company. Under the direction of land planner Emil Hanslin assisted by George Matarazzo, Eastman's 3,500 acres was carefully developed with a wide range of single family homesites and condominiums. Hanslin (1920-1987) had gotten his start as the developer of New Seabury, a residential community on Cape Cod built in the 1960s. In 1969 he founded Yankee Barn Homes to custom-design and craft prefabricated timber frame homes. Many of the homes built at Eastman were Yankee Barn post and beam homes. Yankee Barn Homes relocated from its original location in Falmouth, Massachusetts to Grantham in 1973.

VII. Conclusions

As noted by Neil Larson in his *Overview of Post-World War II Housing and Its Significance in Newton, Massachusetts*, the form and design of Post-World War II Era residential architecture is “so visibly different from that built in the three preceding centuries that it continues to be considered non-historic, even though it clearly reflects design and historical contexts that are now in the past”.⁶⁰ The significance of New Hampshire’s post-World War II Era residential architecture remains largely unacknowledged and is only beginning to be understood. While the residential architecture of this era began as basic affordable housing to accommodate returning veterans from the war, it evolved into a unique and diverse expression incorporating new technology and a variety of design inspirations.

We have much to learn concerning the history and significance of these buildings of our recent past. Some possible future research topics relevant to a deeper appreciation of the state’s postwar residential architecture might include:

- Further research into specific firms and architects, including monographs. Additional work needs to be done on architects in other parts of the state such as those in the Peterborough/Jaffrey area and the North Country.
- Define integrity considerations for mid-20th century resources. *NCHRP Report 723: A Model for Identifying and Evaluating the Historic Significance of Post-World War II Housing* published by the Transportation Research Board in 2012 provides a useful starting point for future discussions.
- Research into government sponsored/public housing/veterans housing in planned communities. Throughout the state there are housing developments that were planned for returning veterans about which little is known. Further research into the history of these government-supported projects is necessary to place them in historical contexts and evaluate their significance.
- Research into significant subdivisions/developments and planned communities
- Continued research into locally significant contractors/builders and building practices
- Research into postwar multi-residential buildings
- Research the influence of local ordinances, zoning, building codes, covenants, etc. on postwar residential construction.

⁶⁰ Neil Larson, *An Overview of Post-World War II Housing and its Significance in Newton, Massachusetts*, 2001.

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Youngstown Kitchen